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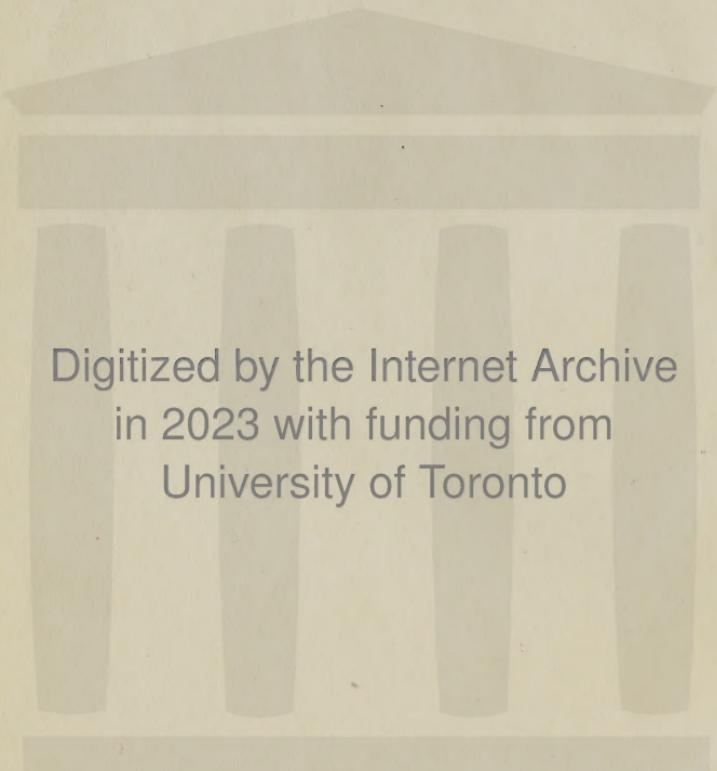
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THE SIXTH ANGLO-AMERICAN WAR CONFERENCE,
QUEBEC CITY, AUG. 10 - 24, 1943

IN a new setting for the discussion of new problems of the War, Prime Minister Winston S. Churchill and President Franklin D. Roosevelt met at the invitation of the Canadian Government in the old historic city of Quebec on Aug. 17, 1943.

High above the broad St. Lawrence River, on the brow of Cape Diamond—at the Chateau Frontenac—was the meeting place of the naval, military, and air force experts and other officials connected with the discussions concerning the prosecution of the United Nations' war effort.

Quebec City thus again takes its position in the ranks of places where weighty decisions settling the world's destiny have been made—this time by the word and the pen rather than by the sword.

Since the Quebec Conference, Mr. Churchill and Mr. Roosevelt have conferred at Cairo (Nov. 22 - 26) and later (Nov. 28 - Dec. 1) they continued their journey to Teheran, Iran, where Marshal Stalin joined them and took part in the important decisions there reached.

Previous conferences held between the two great English-speaking leaders are:

1. Atlantic Conference Aug. 14, 1941
2. Washington Conference Dec. 22 - 28, 1941
3. Washington Conference June 18, 1942
4. Casablanca Conference Jan. 14 - 24, 1943
5. Washington Conference May 11, 1943



The Quebec Conference

The Leaders of the United Kingdom, the United States and Canada confer at Quebec's Citadel.—Prime Minister Churchill, President Roosevelt and Prime Minister King talk informally, while behind are staff officers of the United Kingdom and the United States.



Prime Minister Churchill, accompanied by Prime Minister Mackenzie-King, rides through cheering crowds in the streets of Old Quebec.



President Roosevelt, with his Naval Aide, being officially welcomed to Ottawa by Prime Minister Mackenzie King. The Governor General, the Earl of Athlone, is on the President's right.

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Canada, Bureau of Statistics

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Publications

CANADA 1944

2 vols. in 1.

The Official Handbook
of Present Conditions
and Recent Progress



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THE HON. JAMES A. MacKINNON, M.P.
Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS
DEPARTMENT OF TRADE AND COMMERCE
OTTAWA, CANADA

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foreword

THE growth in popularity of this Handbook since the series was placed on an annual basis in 1930; its extensive use by official and semi-official bodies in regular and special editions; its distribution in large numbers at international exhibitions; its translation into various languages for use in different parts of the world where Canada is officially represented; and its use, by special permission, in financial and commercial houses for distribution to their clients; all attest to the need that exists for a brief and attractive economic handbook of the Dominion.

The current reports of the Dominion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, education, etc., but they are intended mainly for those who are specially interested in particular phases of our national life. The *Canada Year Book*, which summarizes these and other official publications, is essentially a book of reference, and is of too detailed a character for wide distribution. The present publication is the result of an effort to survey the current Canadian situation and especially the effect the War has had on Canadian economy—comprehensively but at the same time succinctly—in a popular and attractive form, and at a cost that makes possible its use on a general scale.

Jas. A. MacKinnon
Minister of Trade and Commerce.

OTTAWA, JANUARY 1, 1944

PREFATORY NOTE

This Handbook has been prepared and edited in the Year Book Division of the Dominion Bureau of Statistics from material that has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The Handbook is planned to cover the general economic situation in Canada, the weight of emphasis being placed from year to year on those aspects that are currently of most importance, since there is not space to deal adequately with all. A review of Canada's War Effort and Economic Conditions at the Close of 1943 precedes the chapter material. The special article following this review deals with The Effects of the War on Canadian Forestry. It has been specially prepared for the Handbook in the Dominion Forest Service, Department of Mines and Resources.

S. A. CUDMORE,
Dominion Statistician.

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Canada's War Effort and Economic Conditions at the Close of 1943



The Rt. Hon. W. L. Mackenzie King,
P.C., M.P., Prime Minister
of Canada.

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The War Effort

The steps taken by Canada immediately on the outbreak of War in September, 1939, to stand alongside the United Kingdom and to organize the Canadian economy to meet the stresses and strains that would result from the demands made upon her by 'all-out' warfare are covered in the earlier editions of this Handbook that have been published over the years 1940 to 1943.

The year 1943 has seen the participation of Canadian troops in widely separated military operations that have included the conquest of Sicily, the invasion of Italy and the occupation of the Aleutian island of Kiska. This followed three years of intensive training in the United Kingdom where the Canadian troops were a bulwark against threatened invasion.

Since the winter of 1942-43, the entire war situation has changed for the better. The submarine threat to the Atlantic life-line of the United Nations has now been

met and definitely parried and the glorious, though silent, part played by the Canadian Navy in bringing this about is a legitimate source of pride to all.

By blows that have weakened the structure of the entire Eastern Front the enemy has been obliged to give way, and to fall back from one strongly fortified position to another over a wide area by the unrelenting pressure of the gallant Russians, and thereby to relinquish vast stretches of rich lands previously overrun in Eastern Europe. In Italy the advance of the British (including Canadian) and the American Forces toward Rome is making steady progress. The enemy, however, still offers a stubborn resistance in the Mediterranean theatre where, late in the summer, the Nazis succeeded in regaining an element of temporary control in the Aegean Sea. In the Pacific theatre, the war with Japan is, at present, confined to a phase of slow attrition.

Canada has made an outstanding contribution to the success of Allied arms through the R.C.A.F. The bomber and fighter squadrons stationed overseas have, alongside the R.A.F., taken a prominent part in the succession of heavy bombing raids that are disorganizing the internal economy of Germany and bringing ultimate victory nearer. The British Commonwealth Air Training Plan, which is administered by the R.C.A.F., has now reached full production and the first slow trickle

of aircrew graduates overseas that began in November, 1940, has swelled to a mighty stream. The new agreement of July 1, 1942, operates until Mar. 31, 1945, and one-half of the cost (\$1,500,000,000) will be borne by Canada.

Far-reaching understanding and definite agreement between the three major powers, Russia, the United States and Great Britain, in regard to a co-ordinated policy of waging war on the common enemy has become more tangible and real as a result of the conferences held during the year. In August, 1943, Prime Minister W. L. Mackenzie King was host at the sixth Anglo-American War Conference held at Quebec City (see frontispiece). Here British, United States and Canadian experts conferred *in camera* and important decisions were reached. For the first time the United Kingdom War Cabinet and the War Committee of the Canadian Cabinet met in joint session. Mr. Roosevelt later visited Ottawa—the first President of the United States to visit the Canadian Capital. The second great conference of Allied leaders was held at Cairo in November, 1943. Generalissimo Chiang Kai-Shek conferred with Prime Minister Churchill and President Roosevelt. The Prime Minister and President then travelled to Teheran where, in December, they met Marshal Stalin in the first personal meeting of the three Allied leaders. General agreement on a concerted policy and a careful dovetailing and timing of operations were reached.

In the international economic field, Canada was elected to the chairmanship of the Committee on Supplies and to membership on the Committee on Europe of the United Nations' Relief and Rehabilitation Administration in November, 1943. Canada's widely recognized contributions to the relief of the countries freed from the Nazi strangle-hold will take, in large part, the form of foodstuffs, principally wheat, and it is quite logical that she should have a responsible place on those committees. This is in line, too, with the earlier published statement of the Prime Minister that "authority in international affairs must not be concentrated exclusively in the largest powers". In several other directions, Canada's importance as a supplying nation, not only of food but of munitions and war materials, became more fully recognized during 1943. Her stand on various questions of international relations commanded wider attention. The Dominion's increased international stature is reflected in the announcements of November and December, 1943, that the Canadian Legations at Washington, Moscow, Chungking and Rio de Janeiro would be raised to the rank of embassies. The Canadian Embassy at Washington is the first to be established by any British Dominion. The legations of each of the named countries at Ottawa have assumed the same status. Among British countries, Canada has now, next to the United Kingdom herself, the largest diplomatic corps.

In the economic field at home, the Government is paying close attention to the complex problems of post-war rehabilitation and reconstruction. Steps have already been taken to provide for the gradual and economic disposal of surplus materials or those that are obsolete. A Committee known as the Crown Assets Allocation Committee upon which agriculture, labour, householders and the Government departments concerned are represented is to be set up. The actual disposition of the assets is to be effected through a Crown Company known as War Assets Corporation Limited, which will be authorized to hold, manage, operate or sell property entrusted to it; to convert surplus materials to basic products; to hold stocks pending their ultimate disposal; and generally to handle assets assigned to it in the public interest.

THE WAR EFFORT

The disposal of surplus assets is being effected in a manner that will, as far as possible, contribute to the continued prosecution of the War and meet essential civilian needs with as little dislocation as possible to the Canadian economy.

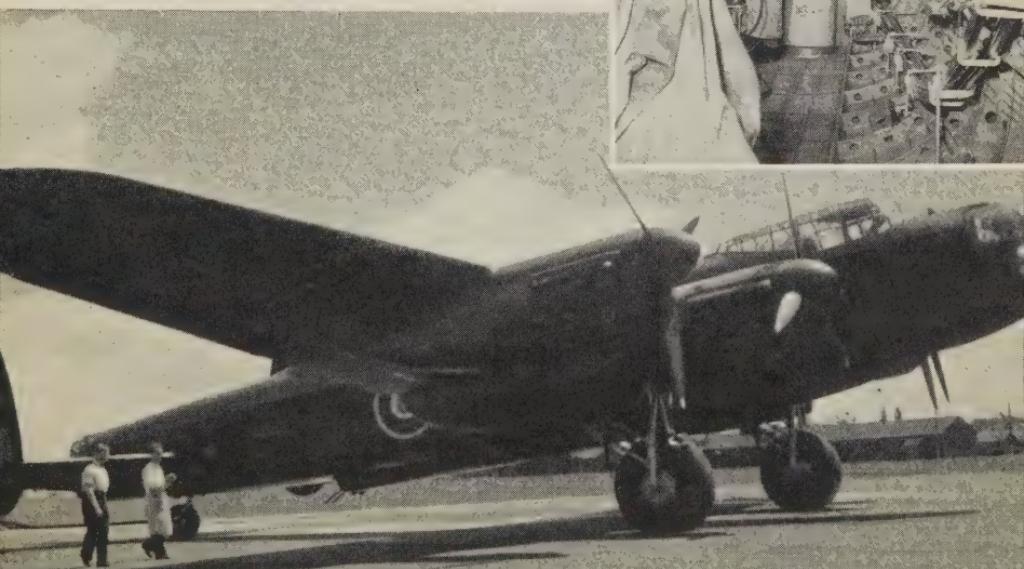
Canada has planned and put into operation what is considered to be perhaps the most advanced and comprehensive rehabilitation programs for men and women in the Armed Forces among the other countries of the United Nations. Every man and woman before demobilization from the Forces will know, through the organization that is now operating, what the Government has agreed to do for his or her rehabilitation into civil life.

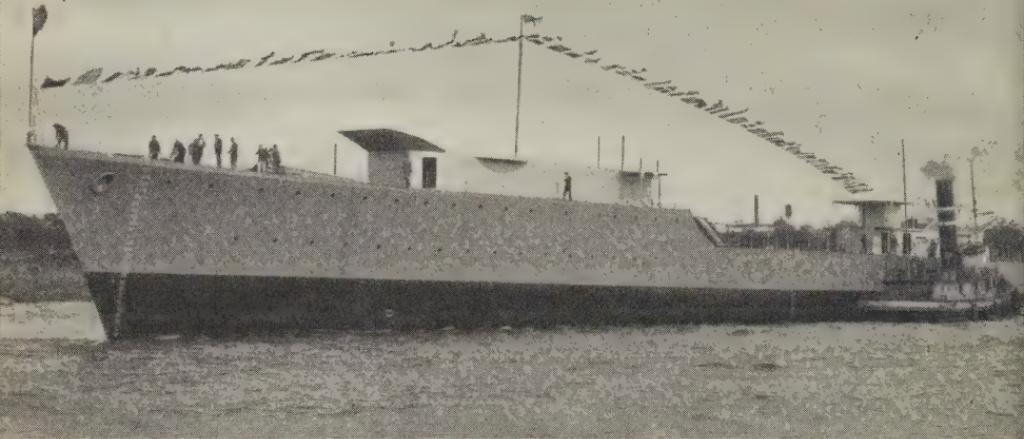
As a definite curb to the inflation threat that has increased in severity throughout the year, the Prime Minister announced in December a policy of revised wage control and a new labour code by which the cost of living is to be absorbed into basic pay rates and no further increases of cost-of-living bonus are to be made and, in the event of an appreciable change in living costs, there will be a general review of the Government's stabilization policy. The program also establishes a floor under farm prices and certain sections of wage and salary earners, such as farmers and government employees—provincial and Dominion—are excluded from the wages policy.

Details of the various developments of Canada's truly remarkable war effort are given in the following sections of this Introduction.

The First Lancaster Bomber produced in Canada just prior to taking off for her first official flight in midsummer 1943. The Lancaster and Mosquito types of combat 'plane, which present very special and difficult problems of production, were added to the Canadian-built types in 1942.

Courtesy, National Film Board





H.M.C.S. *Micmac*, Tribal Destroyer, after she was launched at Halifax on Sept. 18, 1943.
This is the largest warship ever built in Canada.

Royal Canadian Navy Photo

The Navy.—Vastly increased responsibilities have been undertaken during 1943 by the Royal Canadian Navy and to meet them there has been a corresponding expansion of strength both in ships and men.

Canada continues to play an impressive role in the task of providing escorts for convoys in the North Atlantic, which has been the Dominion's most important theatre of operations since the beginning of the War. In addition, the Canadian Navy has carried the war to the enemy in the Mediterranean, in the Aleutian Islands and in other theatres. In the Mediterranean, Canadian corvettes guarded convoys during the critical stages of the North African campaign and in doing so sank, with certainty, three enemy submarines. Canadian-manned landing flotillas also played an important role in the troop landings in Africa and in Sicily. In the Pacific, Canadian warships worked with the United States fleet in clearing the Japanese from their footholds in the Aleutians. An enemy attempt to disrupt shipping by mining Canadian coasts was met and countered by prompt action of Canadian minesweeping craft.

To perform all these duties, the Canadian Navy now musters a strength of more than 600 ships and more than 70,000 men. Corresponding figures for 1942 were 400 ships and 48,000 men; at the beginning of the War there were 15 ships and 1,774 men. The Women's Royal Canadian Naval Service, less than two years old, has passed the 4,000 mark in numbers and some of the personnel is serving overseas.

In ships the growth has not been in numbers only but also in size. It has been announced that two cruisers will shortly be taken over by Canada and there is a possibility that aircraft carriers will follow. Three of the new Tribal Class destroyers built in England (*Iroquois*, *Athabaskan* and *Huron*) are already in commission and the first Canadian-built destroyer (*Micmac*) was launched in September, 1943. Two others were, at the close of the year, in course of construction in Canada.

The destroyer fleet has also been increased by the acquisition of four ships from Britain (*Kootenay*, *Ottawa*, *Gatineau* and *Saskatchewan*). Smaller than the Tribals, they are, nonetheless, powerful and useful escort vessels.

New types of ships built by Canadian yards are now coming into service: frigates, which rank about half way between destroyers and corvettes in strength; Algerine minesweepers, equally useful as sweepers or escort ships; and improved types of coryettes. Fairmiles, patrol and auxiliary craft continue to leave the ways for commissioning in increasing numbers.

Losses during 1943 included the destroyer *St. Croix*, in terms of lives the greatest single naval loss yet suffered by Canada. Sunk while on Atlantic convoy duty, only one man of her complement of 147 was saved. Two corvettes were lost in the Mediterranean (*Weyburn* and *Louisburg*) with 9 and 38 casualties, respectively.

Canadian losses to date in the War include four destroyers (*Fraser*, *Margaree*, *Ottawa* and *St. Croix*); six corvettes (*Levis*, *Windflower*, *Spikenard*, *Charlottetown*, *Weyburn* and *Louisburg*); and three patrol ships (*Bras d'Or*, *Otter* and *Raccoon*).

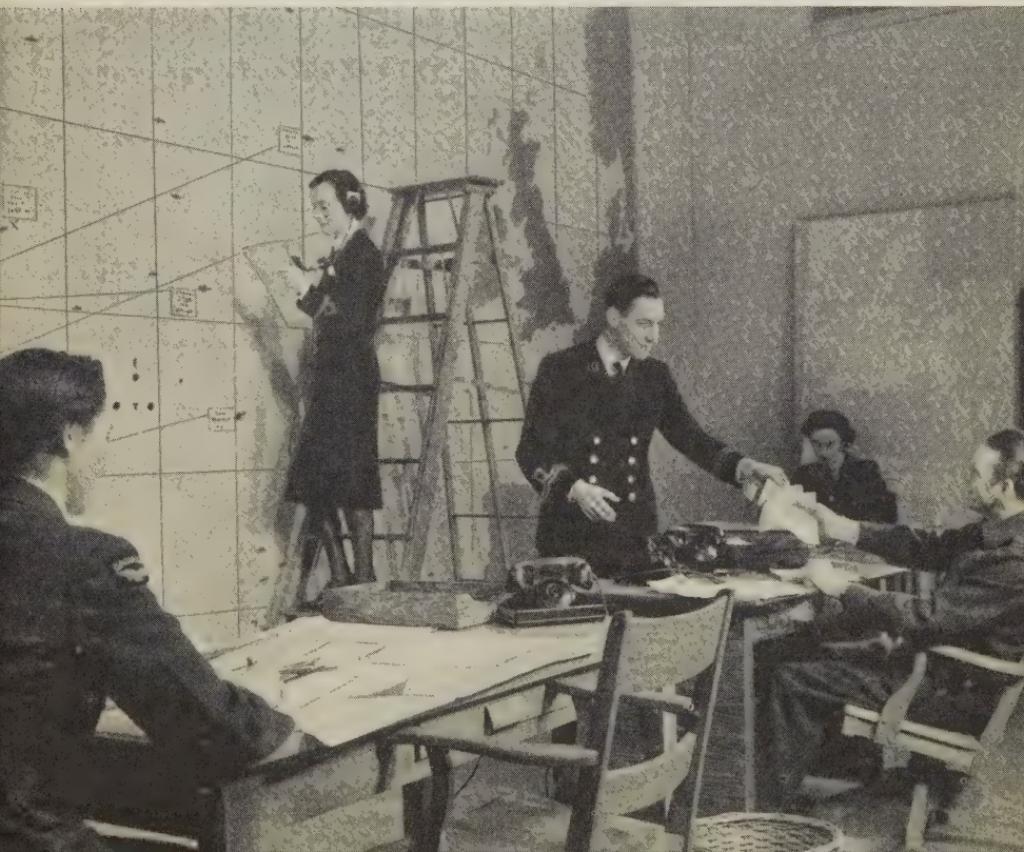
Casualties reported up to Oct. 11 are 954 killed on active service, 132 other deaths, 177 wounded or injured and eight prisoners of war.

The Army.—The War began in earnest for the Canadian Army in the summer of 1943. Battle ended more than three frustrating years of watchful waiting in Britain and long preparation for the attack.

The Canadian First Division, commanded by Major-General Guy Simonds, took part in some of the heaviest fighting of the Allied 39-day conquest of Sicily.

Combined Operations between the Royal Canadian Navy and the Royal Canadian Air Force.—The personnel is engaged in plotting Atlantic convoy routes on the wall chart.

Royal Canadian Navy Photo



CANADA 1944

Its task was to drive through the centre of the Island, between the British and United States troops. In the closing stages of the battle the Canadians, with the British 78th Division of the Eighth Army, broke through the Mount Etna line and started the enemy retreat to the evacuation port of Messina.

General Sir Bernard Montgomery visited the Canadian troops on Aug. 20, three days after the last Axis defenders had been killed or captured or fled from the Island, and told them: "You handled yourselves according to the best and highest standards of any army in this very short, model little 39-day campaign. It has been said that it was a great honor for the Canadians to be in the Eighth Army, but I say that it was a great honor for the Eighth Army to have the Canadians."

Fighting men of the First Division were again side-by-side with the famous Eighth when the direct assault on Italy began and in the bitterly fought advance up "the boot". It was in Italy that the extensive development of new equipment and new battle technique, much of it on the "secret" list, proved the worth of long-range planning. New wireless equipment of Canadian design and manufacture and similar developments played as important a part as the foot and mounted battle drill that equipped the Canadians for their part in the invasion.

Canadians were shoulder-to-shoulder, too, with United States forces when a combined Allied force occupied the key Aleutian island of Kiska, meeting no resistance. Troops from all across the Dominion, a large proportion of them soldiers called for service under the National Resources Mobilization Act, were represented in this operation.

The Canadian Army Overseas is made up of two corps, one of three infantry divisions, the other of two armoured divisions. Besides these there are large numbers of ancillary or corps troops. Corps troops are concerned with communications, repairs to equipment, transport of supplies, medical and hospital services and many other functions. The Canadian Army has more than 170 such units.

During the year, corps and divisions overseas were re-organized to make possible any combination of brigades and divisions and to make the Canadian divisional establishment similar to the British.

Members of the Canadian Women's Army Corps on Parade on Parliament Hill, Ottawa.

Canadian Army Photo



Canadians in Sicily

Canadian Gunners, covering advancing infantry, pound German positions.



A Canadian Armoured Regiment advancing along a dry dusty mountain road. Note the Sicilian mountain donkey cart in the foreground.



General Sir Bernard Montgomery, Commander of the British Eighth Army, talking to a group of officers and men of a Canadian armoured regiment under his command in Sicily.



CANADA 1944

The year 1943 also marked an advance in the training of Canadian air-borne troops, now trained at Camp Shilo, Manitoba. Units are on active service overseas.

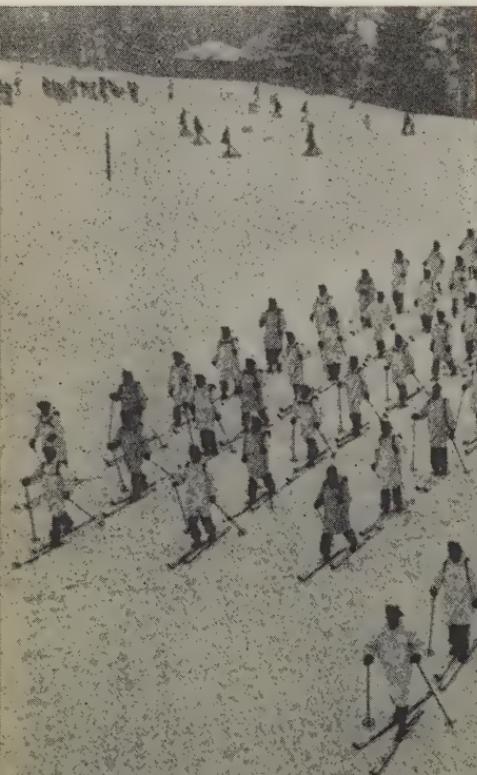
That the Army has now passed its expansion stage was emphasized in changes of policy. These entailed a reduction of the number of officers trained in Canada, the closing of two officers' training centres, the training of some officers in England and the re-organization of centres training reinforcement personnel. In future a greater proportion of officers will come from candidates with overseas service, some of whom will be trained in England and some in Canada.

Canadian defence requirements have decreased substantially and officer requirements now are principally to replace casualties and wastage, with consequent curtailment in officer-training facilities.

Under the plan to re-organize centres for the training of reinforcement personnel, certain basic training centres have been designated for the reception of recruits for armoured, infantry and medical corps. Such centres are specifically associated with, or linked to, the advanced or corps training centre of the arm of the service

Ski Troops in Training for Winter Offensives. *Inset:* A ski-trooper completely equipped for battle.

Courtesy, National Film Board



concerned. In the case of the artillery, engineers, signals, ordnance, army service and provost corps, it has been found possible to link both basic and advanced training at the same corps training centre.

Figures at October, 1943, showed the strength of the Army to be in excess of 460,000 men. There are record figures, too, for the Canadian Women's Army Corps which celebrated its second anniversary on Aug. 29, 1943. At that time nearly 14,000 women were wearing the khaki uniform.

The Reserve Army of Canada continued its role at home and added armoured, tank, reconnaissance and anti-aircraft training to its program of training.

The Air Force.—The British Commonwealth Air Training Plan was born on Dec. 16, 1939. Under its terms Canada became Administrator of the B.C.A.T.P. and the training ground for United Nations aircrews. The Plan is administered by Canada's Department of National Defence for Air, assisted by a Supervisory Board at Ottawa comprising three Canadian Cabinet Ministers, representatives of the participating governments, the Deputy Minister of National Defence for Air, and the Chief of the Air Staff.

Since the first agreement was signed more than 50,000 aircrew—enough to man 15,000 combat craft—have been trained in Canada. They include pilots, navigators, observers, bomb aimers, wireless operators, air gunners and flight engineers.

In 1941 the partners to the B.C.A.T.P.—the United Kingdom, Australia, New Zealand and Canada—met and renewed the original agreement on terms providing for greatly increased production of trained aircrew, and for more emphasis to be placed on preserving the identity of the R.C.A.F. fighting forces overseas. The new agreement, effective July, 1942, is operative until Mar. 31, 1945, during which time the estimated cost will be \$1,500,000,000. Canada will pay 50 p.c. of this, and will continue as Administrator. At the last session, Parliament was asked for \$1,129,000,000 to carry on operations and training during 1943-44—nearly double the cost for the previous year. The appropriation for overseas war establishment increased from \$20,000,000 to \$383,000,000.

The number of training units has risen to 154, with twice the capacity originally intended; the small peace-time force of 4,500 officers and men has grown to over 200,000. There are now 32 R.C.A.F. squadrons in operation. By the end of 1943 there will be 38. The strength of the Women's Division was over 15,000 in October, 1943.

In August, 1942, R.C.A.F. fighter and army co-operation squadrons gave air cover for the Dieppe raid by Canadian troops. Canadian airmen in R.C.A.F. and R.A.F. squadrons comprise more than one-third of the personnel participating in the heavy raids on industrial Germany, Italy and occupied countries. In the rout of Rommel's Afrika Corps, 2,000 members of the R.C.A.F. stationed in the Middle East flew and maintained many of the aircraft taking part. R.C.A.F. Wellington squadrons moved into North Africa as Allied invasion forces swept across the Mediterranean into Sicily, and helped pave the way for the invasion of Italy.

Far out on the Aleutian chain, R.C.A.F. squadrons co-operated with American air forces to drive the Japanese out of Attu and Kiska, their last footholds on this Continent. On the other side of the globe, R.C.A.F. squadrons form part of the air force guarding Ceylon.



Top: Airwomen meteorologists sending off a pilot balloon, used to determine the velocity of winds at different levels, and recording meteorological data in the observatory hall.
Bottom: Potential observers charting the flight of a pilot balloon on a plotting table.

Courtesy, Toronto Star Newspaper Service



At the same time Canada's Home War Establishment was augmented, an expansion that is reflected in the increase of expenditure from \$172,000,000 in 1942-43 to \$300,000,000 in 1943-44. The personnel has doubled on Home War Establishments since Canada started operations out of her own coast lines—operations which have netted highly successful results. Liberator bombers from R.C.A.F. East Coast stations made possible the "aerial umbrella" over Allied convoys and were a decisive factor in reducing shipping losses, as well as an effective offensive weapon against enemy U-boats.

In the autumn of 1943 the Nazis turned to a new tactic. Instead of submerging to evade attacking patrol aircraft they stayed on the surface while their crews manned heavy anti-aircraft guns in an attempt to fight off their attackers. It turned out to be a costly move. In one outstanding two-day running battle, 'planes from an R.C.A.F. East Coast base carried out six attacks on U-boats with highly successful results.

As aerial activity over Europe has increased, more and more Canadian airmen have earned recognition for their part in battle. Awards for gallantry won by members of the R.C.A.F. are given at p. 33.

The Economic Effort and Its Organization

Modern war requires the full and effective mobilization of the nation's economic resources to equip and supply the fighting forces and to maintain the civil population while as much as possible of the national effort is devoted to the prosecution of the War. For Canada this implies not only the provision of men and materials for the fighting forces but the furnishing of food, materials, munitions and equipment to Britain and other Allies. The demands for man-power are therefore urgent for the making of munitions and war supplies as well as for the Services—the Navy, the Army and the Air Force.

Fortunately, so far as financial organization is concerned, the Canadian financial structure was already well developed before the War to a point where it had proved its adaptability and suitability to the country's needs. The strain of war and Canada's accomplishment in meeting such a high proportion of the direct cost of the War, while at the same time providing Britain and other Allied Nations with very extensive assistance in obtaining war supplies in Canada, has been further evidence of this.

In the War of 1914-18, Canada's munitions output was limited to shells and rifles. Ships and aeroplanes, Bren guns, heavy machine guns, Browning guns, sub-machine guns, AA guns, anti-tank guns, trench mortars, 25-pounders, naval guns, tanks, universal carriers, etc., are but a few of the munitions now being supplied in quantity for use in almost every theatre of war. In 1942, Canada made an outright contribution of munitions and supplies to the value of \$1,000,000,000 to the United Kingdom. In 1943, the Mutual Aid Act enabled Canada to provide various types of war supplies up to a total value of \$1,000,000,000 directed to the United Nations who need them in the effective prosecution of the War but who do not have Canadian dollars of their own to pay for all the war supplies they require from Canada.

During the course of the War a serious exchange problem has developed in the form of a shortage of U.S. dollars resulting from the growing need of obtaining essential materials of war from that country. As indicated later, this has been met effectively by the measures carried out by the Foreign Exchange Control Board (see p. 20), and by the arrangements made under the Hyde Park Agreement.

The Financing of Canada's War Effort in 1943.—Canada's total expenditures, including those made to provide war supplies to other United Nations, are expected to reach a total of \$5,500,000,000 in the fiscal year 1943-44. In the Budget for that year, brought down Mar. 2, 1943, tax changes were introduced increasing revenues for the fiscal year 1943-44 by an estimated \$151,200,000, bringing anticipated revenues to a total of \$2,752,200,000. In the same Budget there was also introduced the "pay-as-we-go" system of income tax collection (see p. 179). During the year two great Victory Loans were issued. The Fourth Victory Loan campaign took place between Apr. 26 and May 15, and a total of \$1,308,716,650 in cash subscriptions was obtained, made up of 2,669,111 subscriptions. The Fifth Victory Loan campaign took place between Oct. 18 and Nov. 6, and 3,008,336 cash subscriptions were received, amounting to a total of \$1,383,275,250. In addition there were conversion subscriptions to this loan amounting to a total of \$188,036,300.

An important financial development during the year was the enactment by Parliament of the War Appropriation (United Nations Mutual Aid) Act, 1943, establishing the Canadian Mutual Aid Board (consisting of five Cabinet Ministers), and providing \$1,000,000,000 to purchase war supplies in Canada to be transferred by the Board in accordance with strategic needs to other United Nations for use by them

in the effective prosecution of the War. Under this Act, supplies were furnished during the year to many countries, including, for example, Russia, China, Britain, Australia, and the French Committee of National Liberation.

One of the principal war-time financial control measures is the Foreign Exchange Control Order, which went into force Sept. 16, 1939. Under it the Foreign Exchange Control Board authorizes and controls transactions between residents of Canada and persons outside Canada. Subject to the direction of the Minister of Finance, the Board manages Canada's foreign exchange rates and operations. Normal transactions are handled through authorized dealers, made up largely of the branches of the chartered banks. The Board has exercised particularly close control over exports of capital from Canada, and under Government direction has restricted the use of foreign exchange for pleasure travel purposes. The work of the Board in conserving foreign exchange has been supplemented by the various measures passed by Parliament, to discourage or to restrict non-essential imports, notably the War Exchange Conservation Act.

Shortage of foreign exchange for Canada has also been relieved in part by the agreements announced by the President of the United States and the Prime Minister of Canada at Hyde Park on Apr. 20, 1941. In accordance therewith the United States has provided to the United Kingdom, under the Lend-Lease Act, American components of war supplies to be manufactured in Canada for Britain. Even more significantly, under the agreements, the United States buys from Canada certain essential materials and other war supplies that Canada has been in a position to produce quickly and efficiently.

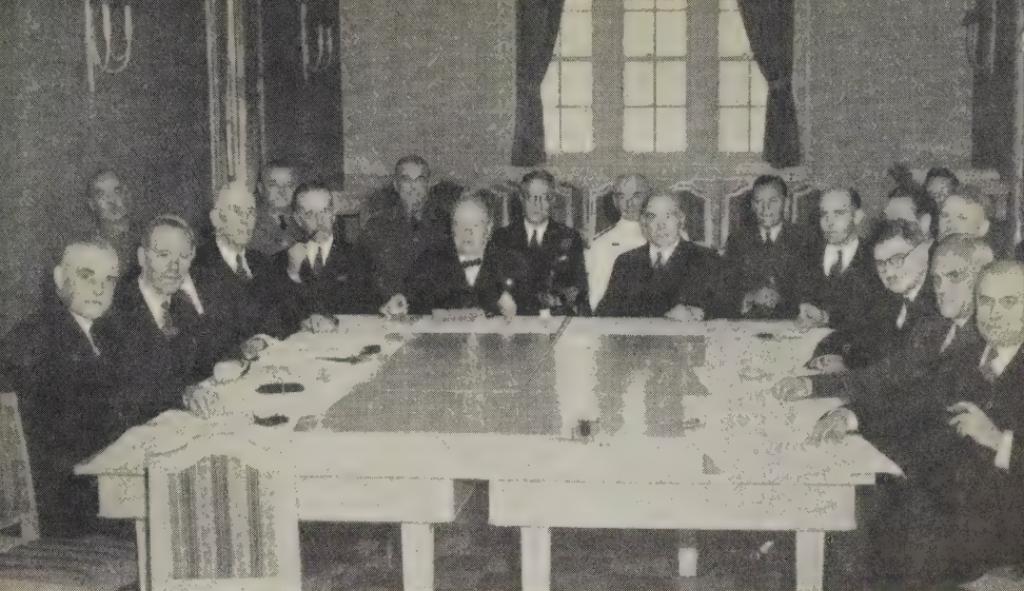
Department of Munitions and Supply.—In the fifth year of war, Canada ranks fourth among the United Nations as a producer of munitions. Major production objectives have been achieved, and the Dominion's role in the co-ordinated Anglo-Canadian-American production picture has become clarified. With a weekly output of more than \$55,000,000 worth of munitions, the nation's war program has reached and passed goals once considered impossible.

The Department was organized in September, 1939, to fulfil two main functions—the making of all defence purchases, and the mobilization of industrial and other resources to meet war needs. When the Department was launched, its work comprised chiefly the purchasing for the Armed Forces. It was not until June, 1940, that it was called upon to initiate an over-all war-time production program.

The vast increase in the volume of purchases which followed the Fall of France, and the increased utilization of the industrial and other resources of the country called for increased mobilization and regulation of Canadian industry. Regulation in particular became increasingly necessary as factories came into production and the demand for raw material mounted.

To meet this need, Controllers were appointed to administer various industries and the supplies of various commodities. By the authority of the Munitions and Supply Act, Controllers can purchase, expropriate, manufacture and take virtually any steps required to further the war effort in the fields in which they operate. Each Controller on his appointment automatically becomes a member of the Wartime Industries Control Board, which was set up to integrate the efforts of the individual Controllers.

Since the Department of Munitions and Supply was created by Act of Parliament in September, 1939, a total of more than \$6,500,000,000 has been spent on war pro-



Prime Minister Churchill taking part in a meeting of the War Committee of the Canadian Cabinet, during his visit to Quebec for a war conference with President Roosevelt.

Courtesy, Canadian Pacific Railway

duction and construction. By the end of 1943, Canada had achieved an output of more than 10,000 'planes; 600,000 motor vehicles; 750 escort, cargo and patrol ships; 60,000,000 rounds of heavy ammunition and 3,000,000,000 rounds of small arms ammunition; vast quantities of chemicals and explosives; and millions of dollars worth of signals equipment and instruments.

So far the Dominion's industrial war effort has been divided into four periods: 1940—planning and organization; 1941—further construction and expansion of industrial facilities; 1942—large-scale production; 1943—peak production.

In the latter half of 1943, with major objectives achieved, the industrial war program of Canada underwent a change of emphasis. Some programs were reduced and others expanded to meet the changing war needs. Few items of Canadian-made war supplies correspond to-day to the original specifications. Designs of weapons and equipment have been subject to continual change, sometimes because of scarcities of materials and tools, sometimes by the urgency that demanded simpler production techniques, and sometimes by lessons of war. This flexibility now enables Canada to shift emphasis from one phase of production to another by gradual stages and with a minimum of disruption.

Some of the accomplishments to date and an indication of the changes made are given in the following paragraphs.

More than one-fifth of the total Government investment in war plants has been allocated to the production of guns and small arms. To date more than 100,000 guns, barrels or mountings have been produced, as well as 1,000,000 small arms. In line with the changing picture of the over-all production program, adjustments are being made in gun and small-arms schedules. Having met the requirements for certain types of guns, their production will be replaced by others or by other products more urgently required.

The number of men and women producing aircraft and components now exceeds 100,000. More than 10,000 'planes have been delivered at an average rate of 80

per week. During the year, changes in aircraft production have resulted in the building of new types of combat 'planes, notable examples of which are the Lancaster and Mosquito.

Canada has about 50 plants making shells, as well as scores of others producing components. All these plants, which are turning out 525,000 rounds a week, have produced more than 60,000,000 rounds of heavy ammunition. Of a total of 28 types of shells being made in 1942, three have gone out of production, two are being increased in output, and others will be reduced.

Over-all commitments for shipbuilding in the Dominion total \$1,000,000,000. About half this amount has been earmarked for cargo vessels and overhaul.

Within two years, Canada has built a fleet of freighters equal to 10 p.c. of the total merchant tonnage of Great Britain at the beginning of the War. Besides merchant vessels, there have been built frigates, corvettes, minesweepers and patrol vessels, and in September the hull of the first Canadian-built destroyer was launched.

Only 30 p.c. of all Canadian war production is delivered to Canadian forces at home and abroad. The remainder goes to Britain, the United States, India, Africa, China, Russia, Australia, New Zealand and the South Pacific. More equipment is being allocated to other United Nations, much of it under the Mutual Aid Act.

Department of National War Services.—The Department of National War Services was established by Act of Parliament in July, 1940, to assist in carrying out the provisions of the National Resources Mobilization Act, 1940, concerned with the mobilization of all the effective resources—both human and material—of the nation. The Department was also empowered to promote, organize and co-ordinate voluntary war services and material contributions made for the prosecution of the War. At present, it comprises the following Divisions: The Canadian Travel Bureau; Directorate of Censorship; Committee on Co-operation in Canadian Citizenship; The Corps of (Civilian) Canadian Fire Fighters for Service in the

Photo copyright, Karsh, Ottawa



The Dominion Government has taken steps to ensure that the home nursing and the first-aid training facilities of the Canadian Red Cross and the Venerable Order of St. John in Canada should be utilized to the fullest extent. On Sept. 7, 1943, a Joint Board known as the St. John-Red Cross Board was organized under the Minister of National War Services to co-ordinate the above-mentioned activities of these bodies. The illustration to the left and on p. 23 symbolize the spirit of these two great voluntary organizations.

Courtesy, St. John Ambulance Association and the Canadian Red Cross Society

United Kingdom; Government Office Economics Control; National Salvage Division; Prisoners of War Next of Kin Division; Voluntary and Auxiliary Services; and the Women's Voluntary Services.

The Canadian Broadcasting Corporation and the National Film Board, while not component parts of the Department proper, are two very important bodies responsible to Parliament through the Minister of National War Services.

Canadian Government Travel Bureau.—As a result of strict tire and gasoline rationing and the banning of pleasure driving for the summer months in a large portion of the United States, a decrease in tourist traffic to Canada was inevitable.

Although all advertising and direct tourist promotional work has been discontinued, the Bureau still receives and answers hundreds of inquiries relating to travel in Canada. Revision of maps and publications has been continued for use in the post-war period.

Directorate of Censorship.—The Directorate of Censorship is responsible for the censorship of publications of all kinds, including radio broadcasting and films, and also for the censorship of postal and telegraphic communications.

Committee on Co-operation in Canadian Citizenship.—The objective of the Committee is to promote mutual understanding between Canadian citizens of French and British extraction and those of other European origins and, through contact with the latter, to interpret their points of view to the Government and to the Canadian public.

Corps of (Civilian) Canadian Fire Fighters for Service in the United Kingdom.—At the request of the British Government, a Corps of (Civilian) Canadian Fire Fighters was recruited early in 1942 to assist the National Fire Service in the extinction of fires and protection of life and property in the United Kingdom.

Government Office Economics Control.—Created in 1942, this Division is charged with the duty of effecting throughout all Government Departments the greatest possible economy and saving in the use of printing, stationery, office appliance machines and furniture.

National Salvage Division.—The National Salvage Division co-operates with approximately 1,700 Voluntary Salvage Committees now in operation throughout Canada. The net proceeds from the sale of salvage material are contributed by Committees to recognized War Charity Funds for the benefit of Canada's Armed Forces.



Prisoners of War Next of Kin Division.—The Prisoners of War Next of Kin Division furnishes information concerning prisoners of war and is responsible for the issue of labels every three months to the next of kin, without which personal parcels may not be despatched. This service is also extended to the Prisoners of War of Allied Nations and Civilian Internees whose next of kin reside in Canada.

Voluntary and Auxiliary Services.—The Voluntary and Auxiliary Services Division exercises budgetary and financial supervision in respect to the six national organizations which receive funds from public treasury for war auxiliary services, viz: Canadian Legion; Knights of Columbus; Salvation Army; Y.M.C.A.; Y.W.C.A.; Navy League of Canada for Hostels and Merchant Seamen Clubs; and also supervision of appeals to the public of Canada for voluntary contributions for war services objectives. It is responsible for development of voluntary war services generally and of Citizens' Committees which act as co-ordinating agencies in approximately 70 urban centres, where off-duty and auxiliary services for Armed Forces personnel are necessary.

This Division administers the War Charities Act, through which some 6,081 funds have been registered. Immediately war was declared, the War Charities Act and Regulations were promulgated to ensure proper directions and controls over war charity appeals to the public.

Women's Voluntary Services.—The Women's Voluntary Services Division, in an advisory capacity, seeks to prevent overlapping and duplication and promotes voluntary civilian war- and peace-time services on a community basis. Voluntary Service Centres are organized with the primary purpose of acting as a central registry or a manning pool to recruit volunteers for war- and peace-time services community work.

A Block Plan, patterned on the existing Air Raid Precaution set-up, has been organized on a neighbourhood basis with the purpose of bringing factual information on national and community projects into every home. These projects concern peace- or war-service activities.

Wartime Information Board.—The Wartime Information Board was created by Order in Council on Sept. 9, 1942, with the object of "ensuring an informed and intelligent understanding of the purposes and progress of the Canadian war effort".

The functions of the Board are carried out under the direction of the General Manager. They consist of co-ordinating existing Government information services and providing means and facilities for the distribution both within and without Canada of Canadian war news and information. The Board, consisting of a chairman, a vice-chairman and eight members, is related to the War Committee of the Cabinet, and is responsible to the Prime Minister as President of the Privy Council. In Canada, the Board operates from Ottawa. Abroad, offices are maintained at New York and Washington, in the United States; London, England; and Canberra, Australia.

National Film Board.—Established by Act of Parliament, 1939, the National Film Board is composed of two cabinet ministers, three civil servants and three representative citizens. Its functions are directed by the Government Film Commissioner who is responsible for co-ordinating and advising upon all film activities of the Canadian Government.

It produces or arranges for the production of films on behalf of all Government Departments and divisions. Since 1940, the National Film Board has produced 193 documentary films, 110 newsclips and trailers and a large number of newsreel stories. Also, through its Graphics Division, it supplies regular photo service to newspapers, magazines, rotogravures, organizations, house organs, etc.; plans posters, booklets, cartoons, decorative illustrations for Government Departments; and maintains an active information section.

Wartime Prices and Trade Board.—The Wartime Prices and Trade Board was established at the beginning of the War "to provide safeguards under war conditions against any undue enhancement in the prices of foods, fuel and other necessities of life, and to ensure an adequate supply and equitable distribution of such commodities". Underlying the work of the Board during the first two years of the War was the belief that if ample supplies were kept available, monopolistic tendencies controlled and sporadic instances of local profiteering dealt with, fair and reasonable prices would be maintained.

To assist in the organization of supply, the Board selected administrators in October, 1939, for the major commodity fields of wool, sugar, hides and leather, and coal. In 1940, an administrator was appointed for animal, fish and vegetable oils, and one for housing rentals.

The most important direct control exercised by the Board was that over rents. Industrial and military activities had led to sharp increases in the population of certain cities, with a consequent shortage of housing facilities. Starting in September, 1940, local Rental Committees were appointed for designated areas and maximum rents were fixed.

Direct price control which, except in the case of rents, was considered a temporary expedient, was imposed only on wool (Nov. 24, 1939, to Jan. 27, 1940), bread and flour (Aug. 6 to Sept. 6, 1940), butter (Dec. 27, 1940, to May 1, 1941), hides and leather, and rents. Apart from direct control, the Board undoubtedly exercised a strong general influence against price increases, through its power to investigate and prosecute in cases of alleged profiteering, and the known fact that it stood prepared to follow up all complaints regarding unreasonable enhancement. The formal and informal activities of the Board to prevent price increases were supplemented by programs to ensure supplies (wool and sugar), by anti-waste campaigns (butter), by compulsory simplification and reduction of unnecessary services (bread) and by steps to detect and prevent hoarding.

The cost-of-living index, which advanced 2.7 points (August 1939=100) during the first month of the War, increased only 5 points more in the following year and a half. However, starting in April, 1941, the index rose sharply, largely as a result of rapidly increasing food prices, and by Oct. 1, 1941, 6.9 points had been added to the previous increase, making the index 114.6. Against the background of this accelerating rise in the cost of living, combined with substantial increases in wholesale prices and wages, the Government decided upon a policy of over-all price and wage ceilings.

The powers of the Board were extended to cover prices of all goods and certain designated services. Under the ceiling plan adopted in October, 1941, and effective Dec. 1, 1941, the prices of most goods and the more important services and rents were frozen at the levels prevailing in the "basic period", Sept. 15 to Oct. 11, 1941. The Board was vested with authority to use a number of related controls; payment

of subsidies*; prescribing terms and conditions of sale and consumer credit controls; control over distribution, rationing and requisitioning; and control over quantity and type of goods produced.

The Board was re-organized on a basis of the various industries and commodities, and a large number of new Administrators were appointed. These Administrators supervise all controls over their respective products until they reach the wholesaler. From this stage, control is generally exercised through a Wholesale Trade Administrator and a Retail Trade Administrator. Related industries are grouped under six Co-ordinators as follows: distributive trades (including retail trade, wholesale trade and services); foods; textiles and clothing; metal and wood products; pulp and paper; and real property. Proposed orders concerning prices are reviewed by a Prices Division and those concerning supplies by a Supply Division and, finally, must be approved by the Chairman of the Board. To facilitate administration, 13 regional offices of the Board were established under which approximately 100 local offices have been set up. A Consumer Branch acts as a clearing house for problems arising out of price-control measures and affords consumers throughout Canada direct representation in Board operations. In the autumn of 1943 the Board set up more than 500 local ration boards to deal with local details of rationing.

All the members of the Board are senior officers in the Government service. They bring to the Board wide and varied administrative experience, and represent, in addition, the points of view of the principal Departments of Government closely related to or affected by problems of price control and civilian supply. Co-ordination between the Board and the Wartime Industries Control Board is effected by having the Chairman of each Board sit as a permanent member of the other. Also, several Administrators under the Agricultural Supplies Board are also Administrators under the Wartime Prices Board. The Board is recognized as the equivalent of a Government department and holds membership on a number of inter-departmental committees, e.g., the National Textile and Leather Requirements Committee; the Food Requirements Committee; the National Selective Service Advisory Board; the Canadian Shipping Board; the Export Control Committee; and the Economic Advisory Committee.

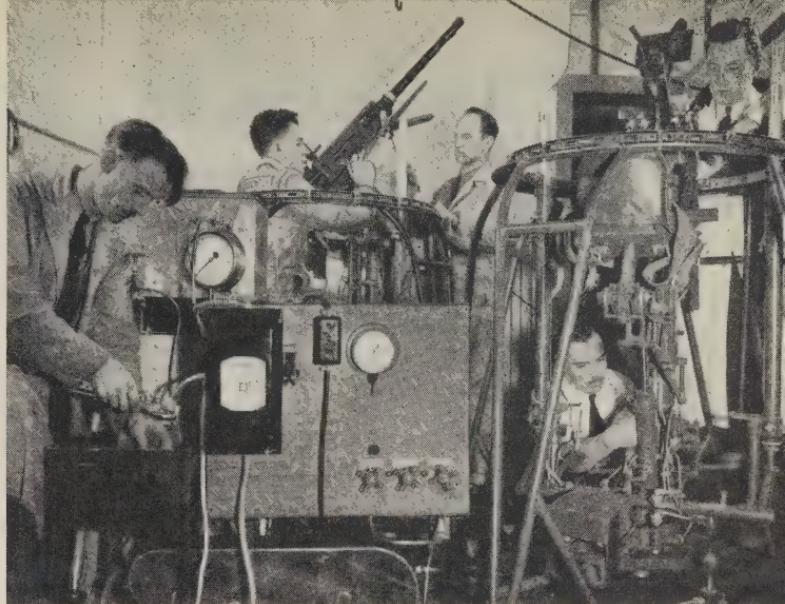
Department of Labour.—The development of war-time labour policy up until the latter part of 1942 is outlined in *Canada 1942*, pp. xxiii-xxiv, and in *Canada 1943*, p. 25. During 1943 the National War Labour Board was reconstituted and there were further important developments in man-power policy.

The National War Labour Board, with the assistance of nine Regional War Labour Boards, administers the wages control and fair-wages policies of the Dominion Government. Originally, it consisted of the Minister of Labour as chairman and five representatives each of employers and workers. In February, 1943, the Board was reconstituted and it now consists of three members of whom the chairman is a Judge of the Supreme Court of Ontario. The employers' and workers' representatives of the old Board were formed into an advisory committee to the new Board. The composition of the regional boards is unaltered, except for a few changes of individual members.

The new National Board, when it was set up, was authorized to make any investigations it considered necessary into wage conditions and labour relations in

* The subsidy program is handled by the Commodity Prices Stabilization Corporation and three subsidiary corporations: Wartime Food Corporation; Canadian Wool Board; and Wartime Salvage Corporation.

Turret Assembly in a Canadian Aeroplane Plant.



Courtesy, National Film Board

Canada, and from April to June, 1943, it conducted an extensive inquiry into these matters. Its report has been prepared and is being considered by the Minister of Labour, but at present (October, 1943) it has not been released for publication.

In December, 1942, and January, 1943, the measures relating to man-power were, with a few insignificant exceptions, consolidated in two sets of regulations, the National Selective Service Mobilization Regulations under which men are called up for the military service and the National Selective Service Civilian Regulations which deal with the allocation of civilian labour. These two sets of regulations, which are administered under the Minister of Labour by the Director of National Selective Service, together embody almost the entire man-power policy. During 1943 several amendments were made in the Civilian Regulations and two of these are especially significant. One of them permitted the Director to remove from less essential civilian industry men between the ages of 16 and 40 who could be more usefully employed in other industries. The other prevented any male worker from leaving an essential industry without permission. A more complete summary of the Selective Service policy appears at p. 146.

Agricultural Supplies Board.—The Agricultural Supplies Board is a war-time control body operating under the Department of Agriculture. It is the responsibility of the Board, in consultation with the Provincial Departments of Agriculture, to ensure that Canadian agriculture is carried on during war-time in a manner best suited to meet, so far as possible, the needs of Canada and the United Kingdom for food and fibres. The organization of the Board includes four Administrators who, under the direction of the Board, are responsible for ensuring supplies of live-stock feeds, fertilizers and pesticides, seeds and flax fibre.

During 1943 the need for increased production in a wide range of commodities continued. British bacon requirements remained large; greater domestic demand and British requirements involved an increase in egg production, and the requirements of dairy products in all forms called for an increase in the production of fluid milk. These increased requirements not only involved arranging production programs with Provincial Departments of Agriculture to assure, so far as possible, that the requirements should be met, but called for most active steps to arrange that supplies of all kinds—feed, seed, fertilizers—were made available throughout the Dominion.

One of the major problems confronting the Board throughout 1943 was to assure adequate supplies of western feeding grains to live-stock farmers in Eastern Canada and British Columbia. This presented a transportation problem of considerable difficulty and, in addition to freight assistance and subsidies to encourage the early purchase of western grain, steps were taken to prevent the congestion at lakehead elevators, where western grain is normally cleaned on its way to the east. Direct control over the export of millfeeds was continued, and practically all of the 8 p.c. of Canadian production exported went to Newfoundland and other British possessions dependent upon Canada for supplies.

An important phase of the Board's activities is to ensure that sufficient seed of all kinds is available. An annual program designed to keep the production of essential field, root and vegetable seeds at a sufficiently high level to meet anticipated requirements is, therefore, undertaken annually in co-operation with Provincial Departments of Agriculture. To meet a shortage in Eastern Canada, western alfalfa seed was moved east and red clover and alsike clover seed was purchased in the United States. Rape seed and sunflower seed were also purchased. Large quantities of certain seeds were shipped to Great Britain during 1943 and contracts were arranged for certain vegetable seeds from the 1943 crop and also for seed of biennial crops in 1944.

Agricultural Food Board.—In March, 1943, the Agricultural Food Board was established. The duties of the Board are: in co-operation with the Agricultural Supplies Board, to develop and direct the policies of the Department of Agriculture for the war-time production of food; to co-ordinate the activities of all commodity boards established under the Department of Agriculture; to direct the diversion of food products produced in Canada; to fill export contracts; to meet the requirements of the Armed Forces in Canada, and to supply deficiency areas in Canada; and to provide a medium for co-operation between the Department of Agriculture and the Wartime Prices and Trade Board in all matters pertaining to agricultural production, price adjustments and subsidies.

Commodity Boards.—Working in close collaboration with the Agricultural Supplies Board and the Agricultural Food Board are three commodity boards, which procure and forward Canadian farm products contracted for under agreements with other Governments. The Meat Board (previously the Bacon Board) acts as the agency which implements the agreements with the British Ministry of Food for bacon and other meat products. The Dairy Products Board acts in a similar capacity with respect to Canadian cheddar cheese needed by the United Kingdom and takes such measures as will ensure needed supplies of other dairy products for Britain or for Canadian markets. The Special Products Board is responsible for supplying certain Canadian farm products such as eggs, fruit and vegetable products and flax fibre.

Dominion Bureau of Statistics.—The great and many-sided expansion of Canadian statistics in numerous fields during the past twenty years, and the work that the Dominion Bureau of Statistics has done to provide a statistical background for economic study, have greatly facilitated the conversion from a peace economy to a war economy. Far more is known about production, internal trade, prices, the balance of international payments, etc., than during 1914-18, and this knowledge has been extensively used by the Government.

Co-operation with the Wartime Prices and Trade Board.—After the creation of the Wartime Prices and Trade Board, close liaison was established between the Board and the Bureau, the statistical staff being supplied by the Board but organized by the Bureau. Statistics on coal were collected and compiled for the Coal Administrator. At the request of the Hides and Leather Administrator, a monthly series of statistics on stocks of hides, skins and leather was instituted. Later on, another monthly series of reports on retailers' inventories was introduced. The work on prices has been expanded considerably, particularly as regards cost-of-living statistics, and extensive price records are furnished regularly to the Board at frequent intervals.

Under the Wartime Prices and Trade Board's order to license persons and firms selling or buying for resale, commodities and specified services, the Merchandising and Services Branch of the Bureau became the Records Division for this work. Over 330,000 businesses were licensed and have been coded. Results from this work have provided record lists of firms for use in the various administrations.

Co-operation with the Foreign Exchange Control Board.—The International Payments Branch of the Bureau co-ordinates its work with that of the Foreign Exchange Control Board. Four officers of its staff are working on the premises of the Foreign Exchange Control Board and the Branch has co-operated in drawing up the forms and schedules used by the Board in its statistical work. As a result of the requirements of the Foreign Exchange Control Board, the work on tourist statistics has been reorganized.

National Research Council.—The National Research Council is serving as a central co-ordinating body directing scientific research in Canada. This work is being carried on not only within its own laboratories but in the universities and in industry; the combined effort is at present being directed to the solution of new and urgent problems arising out of the War. The Council has been appointed the official research station of the Navy, Army and Air Force in Canada. Close co-operation between Service personnel and research staff has been a large factor in the successful application of science to the solution of military problems. Continued co-operation of all research workers in Canada on the firm basis established during the War will likewise be a powerful factor in the solution of the many and varied problems that will confront the Dominion in the post-war era.

The Council's work is planned along two main lines: the conduct of fundamental and applied research, including essential test work in the National Research Laboratories at Ottawa, and the promotion, co-ordination and support of research in other centres throughout the Dominion by grants in aid, award of scholarships, and the direction of research investigations under the guidance of committees of specialists appointed by the Council.

Effective liaison has been maintained in scientific work going on in the United Kingdom, Canada, and other Dominions, and the United States. The National Research Council has a Chief Scientific Liaison Officer at London; the British Government has a liaison office in Canada. Intimate connections are also maintained with government officials and laboratories in the United States in the joint planning and conduct of war research.

Scientific problems referred to the Council in connection with the activities of the Armed Forces are studied jointly by officers from Defence Headquarters and civilian personnel on the Council's staff. Many of the problems are highly technical.

Satisfactory tests made on a cracked type of gasoline have shown that it can be used in training aircraft. This investigation should materially assist in increasing the aviation gasoline supply.

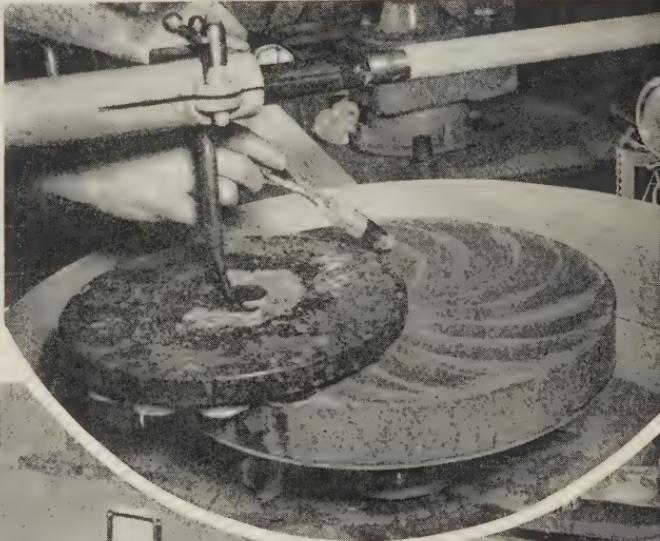
The structures laboratory is the only building in Canada equipped with facilities for testing aircraft structures, such as wings and tail surfaces.

Development for the Air Service of a suitable man-carrying parachute from 'nylon' has been successful. Viscose rayon as a substitute for silk in the manufacture of reconnaissance flare parachutes is being used with success. Boot soles of cotton fabric and suitable plastics have been made up and after successful laboratory tests are now being given field trials.

Gas-detector paints, luminous paints, heat-reflecting paints for armoured vehicles, finishes for rifle barrels, camouflage paints, fluorescent paints, and fire-retardant paints have been developed. Indicators for war gases and chemicals for other war services have been synthesized and studied.

The National Research Council has undertaken the manufacture of high-grade lenses for precision instruments for the Department of National Defence. Such lenses were imported from abroad in pre-war days. The picture shows raw glass shapes and finished lenses mounted on the blocks ready for grinding. The curvature of the concave or convex blocks governs the curvature of the surfaces to which the lenses are finally ground. *Inset:* The operator is applying emery to the iron grinding plate upon which the blocks carrying the lenses are rotated.

Courtesy, National Research Council



In the field of food and shipping, useful aid has been given in the fitting of temporary refrigerators on merchant vessels; investigations on modified curing practices for bacon resulted in the adoption of a standard cure by Canadian packers; research on the drying of pork has been successful; specifications have been prepared for the processing and storage of dried eggs; and much research work has been done on food containers.

Department of Pensions and National Health.—The ordinary peace-time duties of this Department have been turned into war channels to an increasing degree since the outbreak of hostilities. The Pensions Branch of the Department has been largely occupied with the treatment of members and discharged members of the Armed Forces, and with pensions. It has been necessary to construct additional accommodation in all the Departmental pensions hospitals; those Departmental hospitals previously utilized for immigration and quarantine purposes have been adapted to provide active treatment for members of the Armed Forces or for civilian accommodation in the event of any emergency, and the total bed accommodation has been increased from less than 3,000 to over 8,000. The case of every member of the Forces discharged by reason of medical unfitness is reviewed by the Canadian Pension Commission. Rehabilitation plans for members of the Forces engaged in the present conflict are now in process of organization, under the direction of an Associate Deputy Minister of the Department especially appointed for the purpose. The rehabilitation program already enacted is much more comprehensive than that following the First World War. Because of conditions that were attached to the training program after that War, only 8 p.c. of the Forces benefited by vocational training and assistance in interrupted education. A further 4 p.c. were assisted in settlement upon the land. Thus, only 12 p.c. of the Forces then demobilized benefited by rehabilitation projects and the remaining 88 p.c. were given a war service gratuity. The newly enacted Post-Discharge Re-establishment Order enables the Department to furnish vocational training to all members, male and female, of the Forces, who need a skill or a brush-up course. Likewise, anyone who possesses the basic education can be assisted in university training. Social security and free medical treatment are also available for all for twelve months after discharge.

Most of the divisions of the Health Branch of the Department have also taken an active part in the war effort. The Division of Industrial Hygiene is specifically authorized to examine and recommend improvement in the working conditions and medical care of personnel in war industries. The work of the Nutrition Services is important in raising the standard of nutrition not only among the Armed Forces but among the general public of Canada, with a view to greater achievement in the war effort. Both of these services have proved most acceptable to industry. The Public Health Engineering Division has found its important peace-time duties of supervision of drinking- and culinary-water supplies and sanitation greatly increased in relation to the movement of troops and the establishment of new training grounds. The Laboratory of Hygiene undertakes, standardizes and controls the manufacture of biological products for use by the Armed Forces; under the supervision of the Kamloops, B.C., Division watch is kept on the rat population on the seaboards as well as the invasion of disease-carrying rodents in various parts of the western provinces. The vigilance of the Food and Drugs Division is directed towards the maintenance or adjustment of the standards of foodstuffs to meet war-time requirements, particularly with regard to those constituents that

came from countries where trade relations are difficult if not impossible. The Quarantine and Sick Mariners' Division now treats members of the Merchant Marine who are taken ill while awaiting convoy, and provides for the institutional retention of those in Canada who are too sick to continue service and who are citizens of countries occupied by the enemy.

Other Agencies and Activities.—There are various other special agencies performing important economic functions, either of control or investigation. The Canadian Shipping Board controls the use of both lake and ocean ships of Canadian registry. In allocating ships to particular routes and in seeing that essential cargoes are carried, it co-operates with the United Kingdom Ministry of War Transport and the United States Maritime Commission. The Shipping Priorities Committee determines the degree of urgency or priority of the various shipping requirements, gives direction to the Shipping Board, and forwards necessary requests for the use of United Kingdom and United States ships.

Since the Hyde Park Declaration, joint committees have been set up to co-ordinate the war programs of the United States and Canada on the economic side. The Joint Materials Co-ordinating Committee, linking the War Production Board and the Department of Munitions and Supply, is concerned with joint plans for the production, acquisition and use of scarce basic materials. The Joint Committee on Defence Production surveys the plant capacities in each country for the production of complete war equipment and supplies and recommends such modifications in allotment and specifications as will increase the total effectiveness of the program. The Joint Agricultural Committee reviews the war-time agricultural problems of both Canada and the United States for the purpose of promoting the co-ordination of agricultural production and marketing policies of the two countries.

Joint Economic Committees, with which the other joint committees maintain liaison, have an over-riding responsibility to investigate and report on joint war-time economic problems not being currently studied by other agencies. They are further charged with the duty of studying joint economic problems of post-war adjustment.

More recently, the problems of co-ordination, both internal and international, in the field of export policy have become more important because of the growing scarcity of essential materials. A Food Requirements Committee was established late in 1942 for the purpose of studying both domestic and external demands on Canada's food production and recommending appropriate policies in connection therewith.

In order to keep essential supplies from reaching enemy hands, control is exercised over exports from Canada through a special branch of the Department of Trade and Commerce. The Trading with the Enemy Regulations, administered by the Custodian of Enemy Property, prevent the enemy from deriving any benefit whatsoever from trade.

In September, 1939, an Advisory Committee on Economic Policy, consisting of senior officials of various departments and agencies of Government, was established to investigate, report and advise upon questions of economic and financial policy and organization arising out of Canadian participation in the War. Early in 1943 the responsibility of this Committee was widened to include the planning and organization of the investigation and study of post-war problems by departments and agencies of Government.

The Canada Medal.—This is the first distinctly Canadian decoration, the institution of which has been approved by His Majesty the King on the recommendation of the Canadian Government. It is to be awarded in recognition of "meritorious service above and beyond the faithful performance of duties".

Courtesy, National Film Board



Honours and Decorations

The tabulation below shows the awards to Naval, Army and Air Force personnel and to civilians for the period from the outbreak of war to Oct. 31, 1943. The Naval awards include those to Royal Canadian Navy personnel on loan to the Royal Navy. Of the Army awards, the Dieppe expedition accounted for one V.C., 13 D.S.O.'s, 19 M.C.'s, 13 D.C.M.'s and 49 M.M.'s. The operations in Sicily were recognized by the granting of 13 D.S.O.'s, 20 M.C.'s, 5 D.C.M.'s and 29 M.M.'s, and Canadians attached to the British forces in North Africa received one M.C. and one M.M.

HONOURS AND DECORATIONS AWARDED TO CANADIANS FROM THE OUTBREAK OF WAR TO OCT. 31, 1943

Honour or Decoration	Navy	Army	Air Force		Civil	Total
			R.C.A.F.	Canadians with R.A.F.		
V.C.	—	1	—	—	—	1
G.C.	—	2	1	1	—	4
C.B.	2	10	3	4	—	19
C.M.G.	—	1	—	—	15	16
C.B.E.	4	12	5	2	21	44
D.S.O.	6	26	13	7	—	52
O.B.E.	22	43	15	3	65	148
I.S.O.	—	—	—	—	10	10
M.B.E.	21	99	25	1	151	297
R.R.C.	—	8	—	—	—	8
D.S.C.	46	—	—	1	—	47
M.C.	—	40	1	—	—	41
D.F.C.	—	—	609	168	—	777
A.F.C.	—	—	75	11	—	86
A.R.R.C.	2	15	3	—	—	20
MEDALS—						
Albert.	1	—	—	—	—	1
Distinguished Conduct.	—	18	—	—	—	18
Conspicuous Gallantry.	1	—	5	—	—	6
King's Police and Fire Services.	—	—	—	—	18	18
George.	5	4	10	1	2	22
Distinguished Service.	28	—	—	—	—	28
Military.	—	80	—	—	—	80
Distinguished Flying.	—	—	278	21	—	299
Air Force.	—	—	30	1	—	31
British Empire.	35	71	58	1	27	192
Polar (silver).	—	—	—	—	8	8

Economic Developments in Canada, 1943



Hon. James A. MacKinnon, M.P.,
Minister of Trade and Commerce.

first nine months of 1943 was \$6,579,000,000, a gain of 96 p.c. over the same period of 1939. Owing to the increasing concentration upon war production, the advance in the national income has continued sharply since the outbreak of hostilities. The large amount contributed to the war effort in the form of taxation and in lending to the Dominion Government reduced the disposable income in the hands of individuals and, to that extent, prevented competition with war-time industries through the purchase of consumers' goods and services. The remainder of the national income, more evenly distributed over the entire population, nevertheless represented a marked gain in the purchasing power of Canadians.

External Trade

The expansion in external trade reflects the acceleration in productive operations. The export trade in the first nine months of 1943 was over 230 p.c. greater than in the same period of 1939. Of the grand total of \$2,137,000,000 (excluding gold) in the nine months ended September domestic exports to the United Kingdom, consisting mainly of munitions and food, were \$764,000,000. Exports to the United States, contrary to normal tendencies, were somewhat greater than the outward flow to Britain, the gains over the same period of 1939 having been 242 p.c. and 213 p.c., respectively. The War has not changed the main channels of Canada's trade which have always been predominantly with Britain and the United States. In the earlier years of the War a marked increase was shown in imports from the United States and a steady rise in exports to Britain—both features reflecting Canada's part in the war effort. The War has tended to change Canada not only from an agricultural to an industrial country but also from a debtor to a creditor nation.

The accomplishments of the Canadian people in waging war have, over the short period of the past few years, virtually transformed the Dominion's internal economy. The total value of war contracts awarded and commitments made by the Munitions and Supply Department had exceeded \$10,000,000,000 at the end of September, 1943, the Canadian account alone totalling \$4,572,000,000. An additional amount of \$48,400,000 was placed for construction in connection with the British Commonwealth Air Training Plan. Canada's balance sheet, the four-year credits and debits of war, makes it clear that the economic situation is one of great strength.

National Income

The unprecedented rise in the national income is a measure of the economic contribution of Canadians to the War. The official estimate of such income for the

Based on the experience of the first eight months of 1943, it was evident that the net capital import into Canada from the United States was of the order of \$200,000,000, or about double that for 1942 when net capital imports on Canada's security trading with that country were \$109,000,000. Security trading with the United States in 1939 resulted in a capital influx into this country of some \$57,400,000, showing how marked has been the increase since the outbreak of hostilities.

The active balance of the trade in goods rose from \$452,000,000 in the first nine months of 1942 to \$860,000,000 in the same period of 1943, or no less than 90 p.c. Including the invisible trade as well as the visible, total credits on current account with all countries, of \$3,384,000,000 in 1942 exceeded total debits of \$2,275,000,000 by \$1,109,000,000. The extraordinary change in our international trading is shown by comparison with the relatively small credit balance of \$126,000,000 recorded in 1939. Preliminary information indicates the existence of an even greater international credit in the year just ended.

Internal Trade

A tapering off in retail and wholesale trade, due to the shortage of consumer goods rather than to any retardation in demand, is in evidence. Retail merchandise sales, which in 1941 amounted to \$3,311,000,000, are, according to the trend of monthly indexes, running about 20 p.c. above that figure. As the production of household utilities has been largely discontinued for the duration of the War and the output of many other lines drastically curtailed, retail trade, especially in non-essential commodities, is feeling the effects of the limitation.

Dollar sales of wholesale merchants rose 63·4 p.c. in the first eight months of 1943 over the same period of 1939. As the gain in wholesale prices was 35 p.c. in the same comparison, it is evident that the volume of goods distributed through wholesale outlets was at a much higher level.

Transportation being the life-line of a country at war, the smooth functioning of the different interlocking transportation services has been a factor in the development of war industries. The revenue freight loaded from January to September, 1943, was about 73,000,000 tons compared with 41,000,000 for the corresponding period in 1939. The net earnings of the two main railways during the first nine months surpassed comparable figures for any previous year in Canadian railway history. The combined amount for railway operations was \$104,900,000 compared with \$19,400,000 in 1939.

Manufacturing and Employment

Since the outbreak of war, the industrial activity of the Dominion has been increasing at a steadily rising pace. The index of manufacturing production advanced more than 190 p.c. in the first nine months of 1943 over the same period of 1939 and progressive increases have been recorded from month to month as the War has progressed. Changes in the type of production during last year were mainly concerned with the transition from defensive to offensive weapons, and the change in the fortunes of the Allied Nations has provided an opportunity to appraise critically production in certain lines to determine whether greater opportunity could not be found for the manufacture of necessary civilian supplies.

The average number employed in manufacturing industries as indicated by the index of employment in the first nine months of 1943 was more than double the

corresponding figure in 1939. The number of persons employed directly or indirectly in war work was estimated at 1,100,000 on Sept. 1, compared with 300,000 on the same date in 1940. Concentration of war workers was heaviest in the iron and steel, non-ferrous metal, electrical apparatus and chemical industries, although the acceleration also extended to most other lines of manufacturing.

Estimates of expenditure on additions and extensions to war industry plants for the fiscal year 1943-44 are \$195,000,000, a considerable drop from the \$361,000,000 of the preceding fiscal year. Up to the end of 1942, capital commitments made on behalf of the Dominion and British Governments for plant expansion were \$900,000,000. Construction contracts were awarded to the amount of \$160,000,000 in the first nine months of 1943, a decline of about \$70,000,000 from the same period of the preceding year: the contraction further increases the sizable backlog of this type of construction—an important factor in post-war employment.

Finance

There exists no simple measure of monetary expansion. The medium of payment in Canada consists predominantly of bank deposits, but the use of circulating media has also been greatly expanded since the War commenced. The notes and subsidiary coin in the hands of the public were estimated at \$783,000,000 in September, 1943, compared with \$251,000,000, the average for 1939. The four main classes of bank deposits had advanced to \$3,978,000,000 in September, 1943, from \$2,524,000,000 in the first month of war, a gain of more than 57 p.c.

The moderate expansion in current loans placed by the chartered banks in the past four years has been due, in part, to the construction and financing of many war plants by the Government. The security holdings of the banks have risen markedly from \$1,502,000,000 in September, 1939, to \$2,881,000,000 in September, 1943: they represent the part the banks have taken in helping to finance the War.

As a result of war demands the Government's cash requirements for the fiscal year 1943-44 are nearly eleven times as great as in the pre-war period, amounting to about \$5,500,000,000.

Primary Production

Greatly hampered by the lack of adequate manpower, the primary industries made a notable contribution to the war effort in 1943.

Agriculture continued to play an increasingly important part in providing food supplies urgently needed by the United Nations. Despite the remarkable wheat crop of 1942 amounting to nearly 600,000,000 bu., the stocks presently on hand are not regarded as excessive.

The 1943 wheat harvest was only about half that of 1942, but was larger than the output in any of the five years from 1933 to 1937 and was produced on the smallest acreage seeded to wheat since annual records were first kept in 1918. The trend toward wheat acreage production, in evidence since 1938, has now been checked because of the increasing consumption for feed and the expectation that large quantities will be required to supply liberated European countries. The amount of wheat used for animal feed and alcohol during the past season was almost double that used for domestic human consumption. Arrangements were made in September to supply Britain with 1,000,000 tons of wheat flour, representing from 40,000,000 to 60,000,000 bu. of wheat; milling capacity was fully employed to hasten delivery.

Owing to the unsatisfactory crop of coarse grains in Eastern Canada, live-stock producers are relying on feed grains from the western provinces to a greater extent than ever before. Heavy demand for oats and barley for milling and feeding as well as the smaller crop will greatly reduce the combined stocks of the two grains. The eastward movement of feed grains from the Prairie Provinces is forecast at 100,000,000 bu., which, however, is being supplied from stock without endangering the abundance that has existed since the harvest of 1942. At time of delivery the farmers receive 10 cents per bu. on oats and 15 cents on barley in addition to market prices. The compensation is for the purpose of equalizing export and domestic prices.

Many farmers specializing in wheat production during the pre-war period have in recent years turned their attention to live-stock and animal products. Canada is undertaking to supply Britain with not less than 900,000,000 lb. of bacon during the two years 1944 and 1945. Actual shipments may be substantially greater, if feed conditions and the supply of labour permit production on a scale comparable to that of 1943. The agreement for 1943 called for 150,000,000 lb. of cheese and 63,000,000 doz. eggs and major quantities of both foods will be needed. The requirements of butter may exceed the 7,000,000 lb. shipped in 1943.

The fisheries industry also is performing an important function by adding to the war-time food supply. Deliveries of canned salmon to Britain amounted to about 150,000,000 lb. during 1941 and 1942, while canned herring production reached 79,000,000 lb. in the latter year. The landed value of sea fish in the first nine months of 1943 was placed at \$37,000,000, a gain of 35 p.c. over the corresponding figure of 1942. The gain, however, was almost entirely due to increased prices, the volume remaining practically unchanged.

Confronted with a heavy demand, forestry production in Canada at present is limited only by the scarcity of efficient labour and the restriction of transportation facilities. Records of timber scaled in British Columbia indicate that operations were on a lower level than in 1942. While the output of newsprint was nearly 8 p.c. greater in the first nine months than in the same period of 1939, the supply was inadequate for present markets.

The mining industry made a notable contribution to the war effort in 1943. Immense quantities of base metals produced in Canada were supplied to the munitions factories of the United Nations, this country becoming the greatest exporter in these lines. The output of aluminum, derived from imported ores, is sufficient to supply 40 p.c. of the war requirements of the Allies. Canada is producing about 95 p.c. of the total nickel output of the United Nations, 20 p.c. each of the zinc and the mercury, 15 p.c. of the lead and 12 p.c. of the copper. War-time restrictions have reduced the civilian use of four of the most important non-ferrous metals to well below 10 p.c. of the total consumption.

The response to the challenge of war-time demand for power is indicated by the rapid advance in the output of primary electric energy. The total for the first nine months of 1943 was 26,300,000,000 kwh. against 14,100,000,000 kwh. in the same period of 1939. The expansion in turbine installation since the end of 1939 has been 1,750,000 h.p. and further installations are planned for the immediate future. The rapid construction of the Shipshaw plant with a designed capacity of 1,020,000 h.p. contributed greatly to power expansion in the past two years.



THE EFFECTS OF THE WAR ON CANADIAN FORESTRY



Canada's great forest resources and forest industries have been able to play a significant part in the war effort of the Empire and of the United Nations.

Canada's forests cover an area of 1,220,400 square miles, or more than one-third of the total land area of the country, but a considerable part of this vast forest is not suitable for commercial operations, either because it is too difficult and expensive to reach, or because the trees are not of satisfactory size and quality. The accessible productive portion of the forest covers 430,000 square miles, or 275 million acres, and it is from this area that the whole output of sawlogs, pulpwood, fuelwood, and other primary products is obtained. About 340,000 square miles of forests, classed as productive but not at present accessible, form a reserve for the future when transportation systems may be more highly developed.

By far the larger part of the world demand for wood is for softwood, or coniferous, species. Canada possesses the principal reserves of softwoods within the British Empire, and these include large supplies of the most desirable varieties—spruces, Douglas fir, western hemlock, western red cedar, and white, red, and other pines. In addition, the eastern provinces furnish hardwoods, such as birches, maples, and elms, which are particularly useful for special purposes.

The total stand of timber of merchantable size is estimated to be approximately 313,000 million cubic feet, of which 212,000 million cubic feet are accessible. In terms of ordinary commercial units of measurement, the accessible portion of the stand consists of 252,000 million feet board measure of sawlogs and 1,500 million cords of smaller material. Nearly 70 p.c. of the accessible stand is of softwood species.

The Forest Industries

The three major forest industries are: operations in the woods (or logging), the lumber industry, and the manufacture of pulp and paper. There are also large and important groups of secondary industries which use partially manufactured wood or paper as their raw materials.

Some of the most important facts respecting the major industries in the latest pre-war year are given in the following statement.

FOREST INDUSTRIES, 1939

Industry	Establishments No.	Capital Invested \$	Em- ployees No.	Value of Products \$
Woods operations.....	-	198,000,000	98,000 ¹	157,747,398
Lumber industry.....	3,941	85,628,394	32,399	100,132,597
Pulp and paper.....	100	597,908,918	31,016	208,152,295

¹ Man-year basis.

In Eastern Canada, where climatic conditions favour seasonal operations, most of the sawlogs are cut during the winter months by the same companies that operate sawmills. Much of the pulpwood is produced by manufacturers of pulp and paper, but an additional volume is taken out by independent operators. The latter group may be considered to constitute a separate, though small, logging industry. On the west coast of British Columbia, however, there is a highly developed industry engaged solely in the production and sale of logs, although many sawmill companies also do their own logging. Climatic conditions in this region permit logging to be carried on throughout the year, and the large size of the trees necessitates the employment of heavy and expensive machinery.

The pulp and paper industry comprises a small number of manufacturing units, all of relatively large size. In the lumber industry, on the other hand, there are some very large mills, a greater number of medium size, and very many small mills. Among the mills reporting to the Dominion Bureau of Statistics in 1939 were 63 whose annual production exceeded 10 million board feet, 325 producing from one million to 10 million feet, and 3,553 small mills producing less than one million feet apiece. It is estimated that the large mills produce about 55 p.c. of the annual cut, the medium-sized mills 30 p.c., and the small mills 15 p.c.

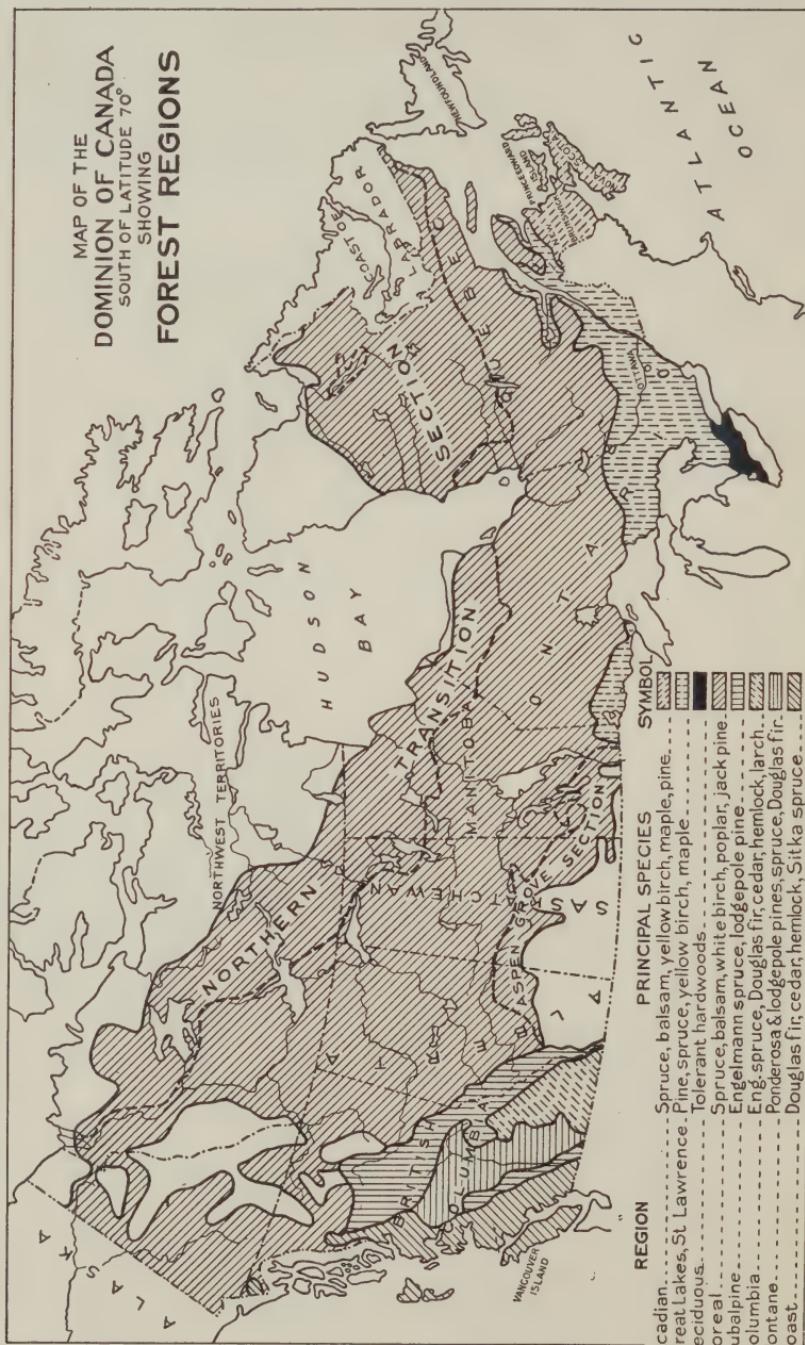
In normal times the forest industries depend on export markets for the sale of large proportions of their total production. Although they sell their goods in many different countries, their chief outlets are in the United Kingdom and the United States. Consequently, Canadian forest industries had accumulated, before the War, invaluable experience in meeting both British and United States requirements.

Typical Canadian Forest Terrain of the Canadian Shield.

Royal Canadian Air Force Photo



MAP OF THE
DOMINION OF CANADA
SOUTH OF LATITUDE 70°
SHOWING
FOREST REGIONS



Lumbering.—At the outbreak of war in September, 1939, the Canadian lumber industry was experiencing a period of reasonable activity. Production of lumber during that year, totalling 3,976 million feet board measure, was about normal, although the proportion of the total cut exported, 55 p.c., was somewhat higher than usual. Shipments to the United Kingdom, amounting to 1,224 million feet, were 33 p.c. greater than the average for the previous five years and reflected the efforts being made in Britain to accumulate stocks before hostilities commenced.

During the winter logging season of 1939-40 the cut of logs was considerably increased, but on the whole the industry underwent no considerable dislocation of its normal activities until early in the summer of 1940. The conquest of Norway in April and the culmination of the German sweep to the west in the Fall of France in June radically altered the whole outlook, and the phrase "business as usual" passed into history for the time being. Canada was now definitely in danger, and the demands on the lumber industry were also increased by the changed position of the United Kingdom. Ordinarily the British Isles constitute the most important import market for lumber in the world, with an annual requirement for about 4,400 million board feet of softwoods and 560 million feet of hardwoods. Before the War, the Scandinavian and Baltic countries supplied a large proportion of Britain's softwoods, but this source was now entirely cut off by enemy action. Overnight, Canada became almost the sole source of supply available and her exports to the United Kingdom in 1940 reached the record total of 1,617 million feet, of which approximately 1,000 million feet were provided by British Columbia.

In Canada, construction programs for naval, military and air-force establishments, and for new munitions factories were at once revised upwards on a scale that promised to tax the construction industry and the suppliers of materials to the utmost. Wood was to be the chief building material and the conflicting needs of different branches of the Armed Forces, of industry, and of timber exporters threatened to create a chaotic market.

In Canada more than 5,000 buildings were erected in 1940 at bases and training establishments of the Navy, Army and Air Force, and work was commenced on many offices and factories. About 430 million board feet of lumber were used for this purpose during the year, in addition to 100,000 squares of shingles and large quantities of flooring and millwork. The building program in 1941 was almost as large and included 4,000 more buildings for the Armed Forces. Still further additions to the list have been made since then.

Sorting Logs that have been floated down stream to their destination.

Courtesy, Monetary Times



Among the thousands of buildings erected were many hundreds, such as aircraft hangars, drill halls, and storage sheds, in which maximum area of unobstructed floor space was an essential requirement. Columns and roof-trusses, comprising the frames for all but a few of these, were fabricated from structural grades of Douglas fir timber, individual members being fastened together by means of steel ring-connectors. In 1940 alone 335 hangars and similar structures were erected, and by the end of 1942 the number had exceeded 700.

Another major use for wood, which increased rapidly in 1940 and has since surpassed the requirements for war building, is the fabrication of boxes, barrels, and crates. Munitions, food, and other supplies destined for shipment overseas must be packed in containers strong enough to prevent damage, and motor-vehicles and aircraft are protected by wooden crates. The necessity for conserving both lumber and shipping space makes it imperative that packages should be reduced to the smallest sizes consistent with security of the contents, and a great deal of systematic investigation of container design has been necessary. Many types of boxes have been tested and re-designed at the Forest Products Laboratories of the Department of Mines and Resources, with consequent important savings of materials and space.

In addition to building materials, box shooek and crating, domestic requirements for lumber for purposes essential to prosecution of the War have included large volumes for use in shipbuilding, essential mines, and the building of truck bodies, aircraft, railway rolling-stock, and bridges and culverts. All these demands, when added to export requirements, have inevitably led to reduction of the quantities of lumber available for ordinary civilian purposes, and have created a very difficult situation for the retail section of the lumber trade, even though loggers and sawmill operators have done their utmost to increase production.

As a first step towards ensuring that available lumber would be used to the best advantage, a Timber Controller for Canada was appointed in the Department of Munitions and Supply, by an Order in Council dated June 24, 1940. The chief immediate tasks were three in number. First, arrangements had to be made for maintaining the flow of supplies of lumber urgently needed in the United Kingdom; secondly, timber had to be secured for Canada's own war building-program, including the British Commonwealth Air Training Plan; and thirdly, exports of lumber to non-



Community Settlement for War Workers in the Shipbuilding Yards at Vancouver, B.C.—These houses were erected by Wartime Housing Ltd., a Crown company.

Courtesy, National Film Board

Standing on Springboards, Two
Husky Woodsman Fell a Hugh
Sitka Spruce.

Courtesy, National Film Board

sterling countries had to be kept up as a source of urgently needed foreign exchange. In addition to these, sufficient lumber had to be found to meet the needs of essential civil business.

The abnormal demand for shipping space caused by the War and the high rate of losses of tonnage in the Atlantic combined to make it impossible for vessels to spend the time needed for the long voyage through the Panama Canal and up the west

coast of the United States to Vancouver. Accordingly, special freight rates for transcontinental shipment of lumber from British Columbia to eastern ports were adopted by the two great railway systems, and such movements were undertaken for the first time on a large scale. As much as 80 million feet of lumber for the United Kingdom have been handled under this scheme in a single month.

During the first two years of the War the output of lumber steadily increased. In 1942, however, there was a slight decline as compared to the previous year, and preliminary estimates for 1943 indicate that the output will not be greater than in 1939. Official figures in M ft. b. m. for 1939 to 1941, and estimates for the succeeding two years are: 1939, 3,976,000; 1940, 4,629,052; 1941, 4,941,084; 1942, 4,800,000; 1943, 4,300,000.

It is estimated that in 1943 lumber will have been distributed about as follows: the Armed Forces, naval and merchant shipping, and Wartime Housing will require about 500 million board feet; about 600 million feet will be used for boxes and crating; the railroads will consume 130 million feet and essential mines 120 million feet; and miscellaneous war purposes will require 50 million feet. Thus, war requirements will have totalled 1,400 million feet. Exports to Great Britain and her Allies will have amounted to 1,800 million feet, leaving only 1,100 million feet for essential civil uses. The latter figure is very small and explains why many restrictions on the use of lumber have had to be imposed.

The fall in production from 1941 to 1943 does not represent any slackening of effort on the part of the industry; on the contrary, operators have had to work harder, under accumulating difficulties, in the later years. The chief of these difficulties has been shortage of labour in the woods and in the mills. Large numbers of men ordinarily available to the lumber industry have enlisted in the Armed Forces, and additional numbers have found employment in shipbuilding and the munitions industries. Lumbering has now been declared an 'essential industry' and the National Selective Service organization has taken steps to check the drift of men away from the woods and mills; nevertheless, a very tight labour situation seems inevitable.





Exceptionally Fine British Columbia
Fir Logs Selected for High Class
Construction Purposes.

Courtesy, Timberland Lumber Co.

while the War lasts. Other difficulties have arisen in connection with obtaining supplies, restriction of truck haulage, rationing, and so forth, but these have been reduced as far as possible by co-operation of governmental authorities.

The policies respecting control of timber have undergone many changes in order to keep pace with changes in the situation. Perhaps the most significant of these has been the change respecting exports of lumber to non-Empire countries and, more particularly, exports to the United States. In 1940 United States imports of Canadian lumber, totalling 651 million board feet, were only slightly larger than in 1939. During the following year, however, consumption of Canadian lumber in the United States was doubled. Up to this point it was desired that these exports should be as large as possible in order that Canada might secure United States dollars needed to pay for imported war supplies. After the declaration of war by the United States in December, 1941, exports of Canadian lumber increased still further, but the upward trend of Canadian forest production had been checked. So great a drain on stocks was made in 1942 that supplies for the United Kingdom and for Canada's own war effort were seriously threatened. Under the circumstances it was necessary to make all exports of lumber to non-Empire countries subject to permit. At the same time, arrangements were made with authorities in the United States to ensure that all Canadian lumber exported thereto would be used for essential war purposes.

To encourage production of softwood lumber in the face of increased costs and the curtailment of exports to the United States, increases in prices paid to primary producers have from time to time been authorized and the Timber Controller has recently ruled that, effective Sept. 1, 1943, these increases may be reflected in higher retail prices. Much of the lumber sold at retail is for defence purposes, in which case higher prices do not create pressure on the cost of living. It would, however, be inconsistent with the Government's price control policy to require civilian consumers to absorb these increased costs. A subsidy is therefore being paid by the Commodity Prices Stabilization Corporation on essential purchases of softwood lumber, lath, posts and shingles by such users as farmers, fishermen, fruit and vegetable growers, trappers and other persons requiring lumber for use in the pursuit of their personal trades or by civilians generally for maintenance and repair purposes.

Pulp and Paper.—In 1939 the pulp and paper industry occupied first place among all manufacturing industries in Canada in respect to amount of capital employed and amount of salaries and wages paid. In numbers of employees and gross value of products it stood second to the sawmilling industry and the base-metal smelting and refining industry, respectively. Its most important product was and is newsprint paper, about 80 p.c. of which is sold in the United States.

FORESTRY IN WAR-TIME

During the earlier years of the War, production of the industry's principal raw material, pulpwood, increased by leaps and bounds, and the manufacture of wood-pulps and papers increased accordingly. In 1941 both volume and value of production exceeded all previous levels. Notable developments during this period were the large increases in production and exports of all kinds of wood-pulps, and of paper boards and papers other than newsprint. The exceptional demand for pulps made necessary the installation of additional manufacturing facilities, and exports were twice as large in 1941 as in 1939.

The trends of production of wood-pulp and paper are shown in the following statement.

PRODUCTION OF WOOD-PULP AND PAPER

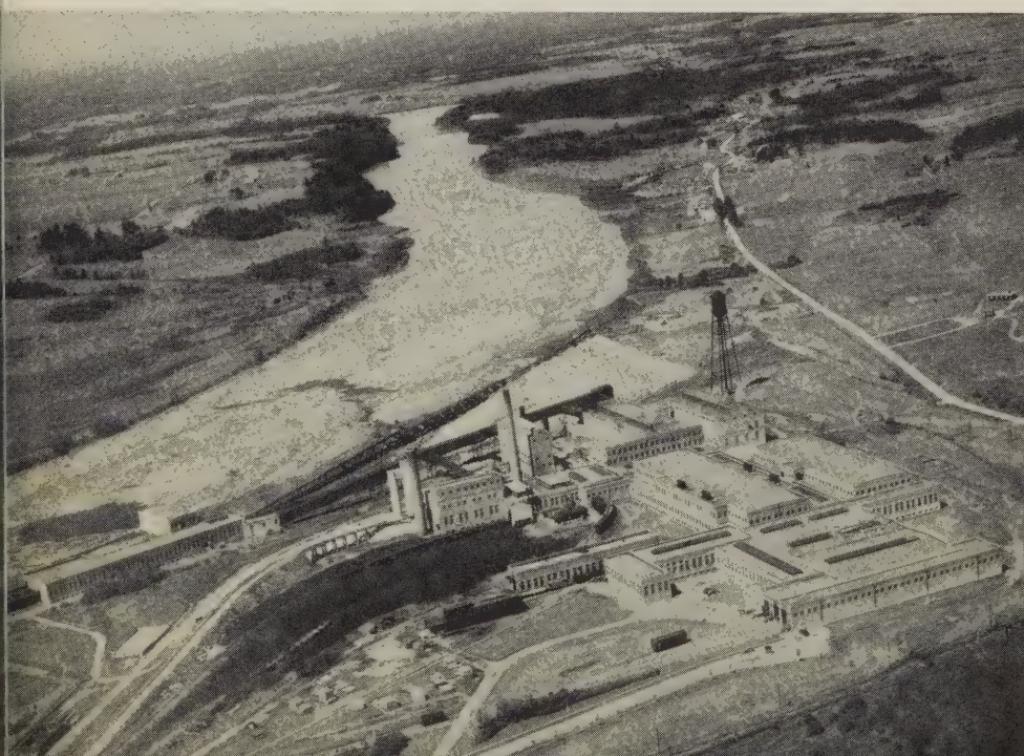
Year	Wood-Pulp tons	Newsprint Paper tons	Other Papers ¹ tons
1939.....	4,166,301	2,926,597	673,905
1940.....	5,290,762	3,503,801	815,613
1941.....	5,720,847	3,519,733	1,010,408
1942.....	5,606,461	3,257,180	984,587

¹ Including paper boards.

Up to the end of 1941 conditions caused by the War had the effect of intensifying the demand for products of the pulp and paper industry, but did not result in any major disturbance of normal operating and trade practices. While the Armed Forces and the munitions industries required more paper to conduct business, and require-

A Modern Pulp and Paper Plant in the Gaspe Region of Quebec.—This is typical of the many pulp and paper establishments that have brought Canada to a foremost position in this industry.

Courtesy, Canadian Airways Limited



ments for pulps, wrapping papers, and newsprint increased, these products continued to be distributed through what were pretty much the normal channels. The uses of the products of this industry for direct war purposes may be less obvious than in some other cases, but it has secured for Canada most urgently needed supplies of foreign exchange, particularly United States dollars. This function was of exceptional importance prior to the entry of the United States into the War. Through the processes of foreign trade many thousands of tons of pulp and paper shipped across the southern border reappeared in Canada in the form of training aircraft, guns, tanks and other war supplies which could not at that time be manufactured here.

A special contribution to the general war effort was made by the pulp and paper industry by the adoption of a program for the manufacture of "bits and pieces" in its extensive and well-equipped machine shops, and the diversified list of products made includes parts for naval and cargo vessels, aeroplanes and gun-mountings, as well as gauges and other special devices. During the first year, supplies produced were valued at more than \$1,250,000, and subsequent production has been much greater.

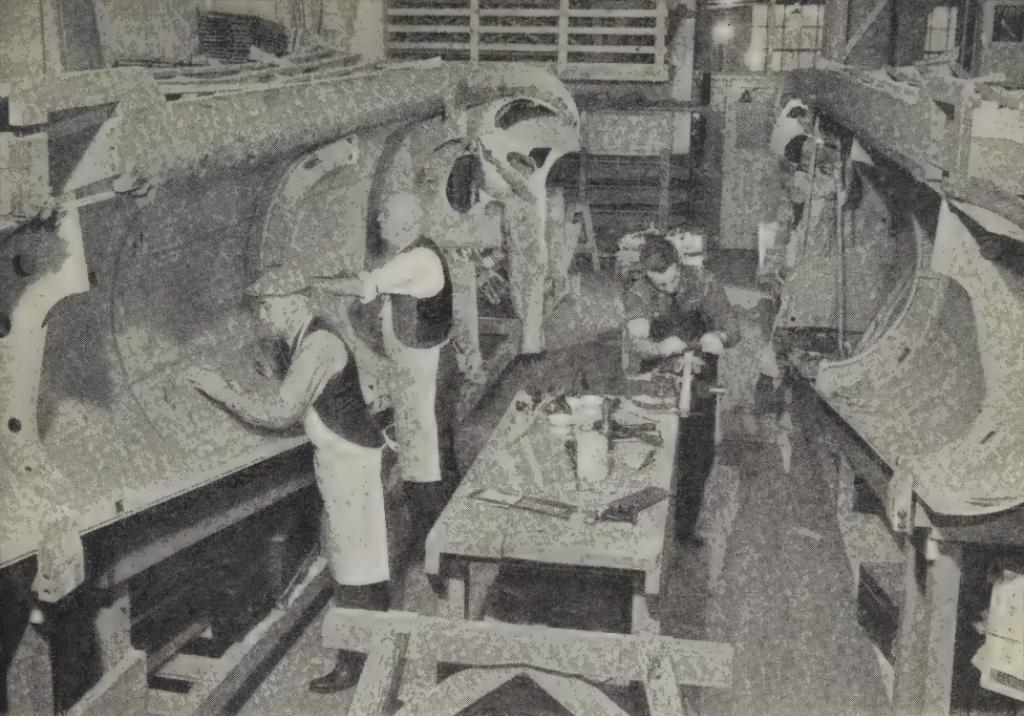
At the beginning of 1942 there were some doubts whether production of pulp-wood could be maintained at the rate of the previous year, and meanwhile the outflow to the United States was greater than ever before. Production and distribution of pulpwood were, therefore, placed under direction of the Timber Controller and all exports to non-Empire countries were made subject to permit. Arrangements were made, however, whereby United States mills, which normally depended on Canadian wood, would receive enough to meet their ordinary requirements. During the year all business in wood-pulps and papers was brought under the control of Administrators of the Wartime Prices and Trade Board. The first Newsprint Administrator was appointed in December, 1941.

Newsprint mills are very large consumers of power and Canada is outstanding among nations as a producer of hydro-electric power. Nevertheless, during the latter part of 1942, the needs of munitions industries and other direct war production were so great that restrictions had to be placed on the amount of current available to newsprint mills in parts of Ontario and Quebec. This inevitably resulted in reduction of the quantities of newsprint paper manufactured.

To meet this new situation, the Newsprint Administrator entered into negotiations with United States authorities intending to bring the whole newsprint industry of North America under a more or less uniform system of control. United States publishers were asked by their Government to reduce consumption, and in Canada plans were made for a pooling scheme whereby mills that had been compelled to surrender business by lack of power would be compensated from a fund to be built up from contributions by mills that were able to maintain or increase their output. This fund is held by the Commodity Prices Stabilization Corporation of the Wartime Prices and Trade Board.

At the beginning of 1943 a quota arrangement covering 25 mills was put into effect. Nevertheless, the reduced rate of operation of the industry as a whole placed Canadian manufacturers in a very difficult position because there had been no increase in the standard price of newsprint (\$50 per ton at New York) since 1938. During the intervening period costs of operation had risen steadily and a price increase of \$4 per ton was authorized in February, effective Mar. 1, 1943.

In the early summer of 1943 newly developed hydro-electric projects came into operation, substantially easing the power situation, but no considerable increase in the output of paper then seemed possible because of shortage of labour and consequent



Wooden Fuselage Pieces for a Mosquito Aeroplane.—A lath strip, tongue and groove fitting, and special adhesives bind the parts together so neatly and firmly that the join is not only invisible but as strong as any part of the fuselage.

Courtesy, National Film Board

shortage of pulpwood. Shipments of newsprint to the United States were stabilized at 210,000 tons per month and Canada endeavoured to supply her neighbour with 1,550,000 cords of pulpwood and about 1,200,000 tons of wood-pulps during the year. The increasing difficulties of the newsprint industry were recognized by authorization of a further price increase of \$4 per ton, effective Sept. 1, 1943.

Special Forest Products

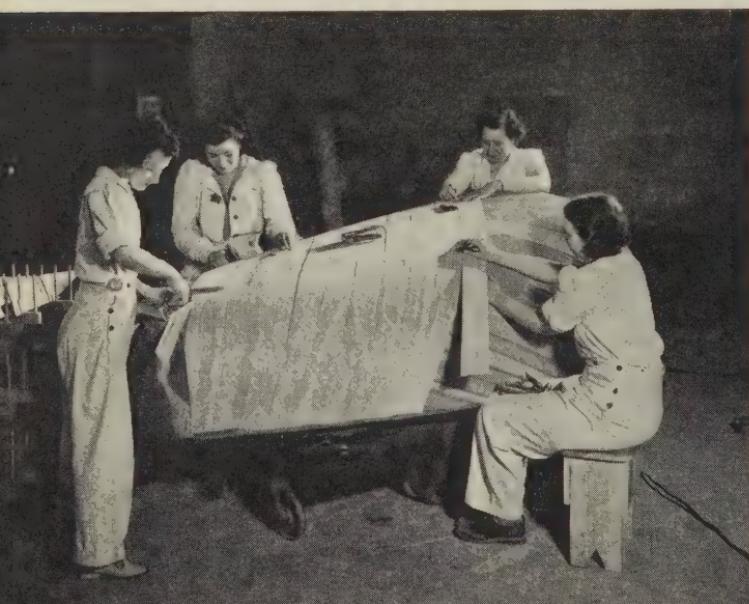
Pit Props.—When shipments from the Baltic area to the United Kingdom were stopped by enemy action early in the War, Great Britain lost not only a large proportion of her lumber imports, but also the chief source of supply of the pit props essential to the operation of vitally important coal mines. Round timber to be used for this purpose must be prepared according to very exacting specifications, and these were not familiar to the logging industry of Eastern Canada. In spite of this, operators in the Maritime Provinces immediately accepted large contracts and in a single operating year, 1940-41, shipped 240,000 fathoms of pit props, equivalent to just over 400,000 cords, to Britain. In 1941 arrangements were completed for supplying the mines of the United Kingdom with home-grown timber and operations in Canada were discontinued.

Aeroplane Components.—During the War of 1914-18 the frames of all aircraft were made of wood. Sitka spruce, which grows only on the west coasts of Canada and the United States, was found to be superior to all other species for this very exacting use. Output of lumber of suitable quality was expanded rapidly between 1914 and 1918, and as rapidly declined thereafter. During the succeeding 20 years, sales of this high-quality selected spruce were small but, on the outbreak of the present War, the demand suddenly became as great as it had been in 1918. Special steps had

to be taken to encourage production and in 1942 a Crown company, known as Aero Timber Products, Ltd., was created to expedite logging of Sitka spruce on the Queen Charlotte Islands. The specifications of lumber acceptable to the aircraft industry are so rigid that only a relatively small proportion of the lumber sawn from carefully selected logs is good enough to meet requirements. Consequently, the supply of the large quantities of aircraft stock needed by the United Kingdom and by Canada's own aircraft industry imposes a heavy drain on the limited stocks of large-size Sitka spruce trees that are still available. It is estimated that the output of "aeroplane spruce" in 1943 will total 30 million board feet, which figure may be compared with the production of 26 million feet in the last full year of the War of 1914-18.

In addition to Sitka spruce to be used in the fabrication of structural components, the aircraft industry requires large quantities of plywoods for use in covering wings and fuselages. In building up these plywoods, veneers which conform to exceptionally high specifications must be used. It has been found that the yellow birch of Eastern Canada provides the best wood for the manufacture of aircraft veneers and consequently there has been very keen search for birch logs of the requisite quality. Production of this material in quantity is difficult because only occasional trees are large enough and of sufficiently high quality to meet the requirements. Output of yellow birch veneer logs totalled 66,500 tons in 1940 and is estimated at 110,000 tons for 1943. Production and distribution of veneer logs in Eastern Canada has been placed under the control of a Crown company known as Veneer Log Supply Company, Ltd., with headquarters at Montreal. Concurrently with expansion of the output of veneer logs, a number of Canadian factories have undertaken the manufacture of aircraft veneers and plywoods. Production of such plywoods in 1943 is estimated at $33\frac{1}{2}$ million square feet.

Wood Fuel.—In the summer of 1942, it became apparent that the country was threatened with a serious shortage of wood fuel. Normal consumption of this commodity is in the order of 9,000,000 cords annually, and most of it is produced by many thousands of individual farmers, rather than by relatively large industrial units. Shortages of farm labour, together with the abnormal demands for production of food of all kinds, have resulted in curtailed production. This shortage is very serious, particularly in sections of the country which normally rely mainly on wood for both

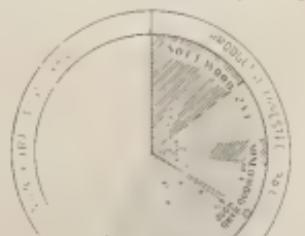


Aircraft Construction.—
Thin veneer plywood strips being skilfully wrapped around a solid wooden mandrel, in three or more layers.

GRAPHIC RECORD OF FOREST RESOURCES AND FOREST INDUSTRIES

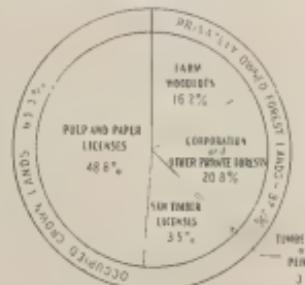
FORESTED AND NON FORESTED LANDS
IN THE NINE PROVINCES

Merchantable forest shown in heavy shading



OWNERSHIP OF OCCUPIED FORESTED LANDS

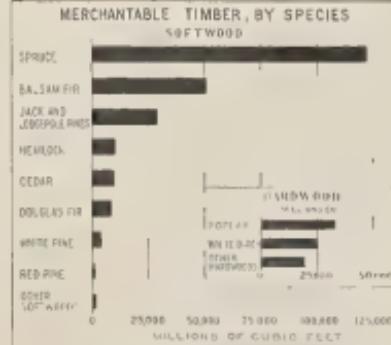
Unoccupied Crown Forest Lands
are not included in this chart, see ——



ALIENATED AND UNALIENATED
FOREST LANDS

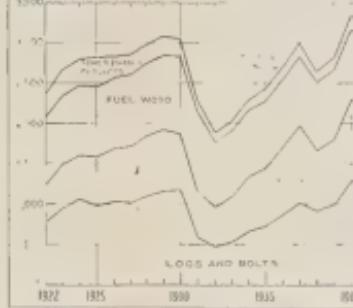
UNALIENATED

ALIENATED



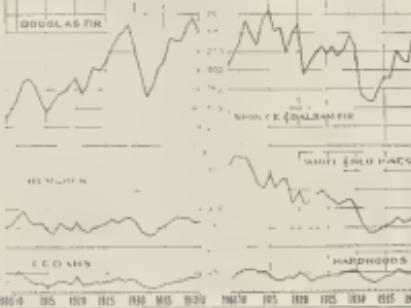
STANDING TIMBER UTILIZED, BY PRODUCTS

MILLIONS OF CUBIC FEET 1922 = 41



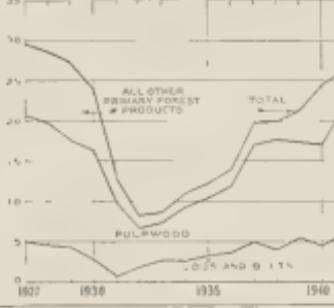
PRODUCTION OF PRINCIPAL KINDS OF LUMBER, 1908-41

MILLION FEET BOARD MEASURE



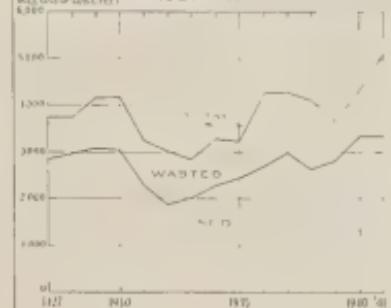
EXPORTS OF PRIMARY FOREST PRODUCTS

MILLIONS OF DOLLARS 1927 = 41



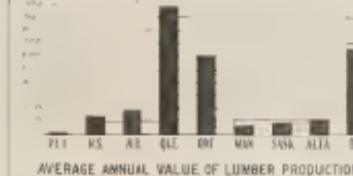
STANDING TIMBER ANNUALLY UTILIZED AND DESTROYED

MILLIONS OF CUBIC FEET 1927 = 41



AVERAGE ANNUAL UTILIZATION OF STANDING TIMBER
BY PROVINCES, 1931-4

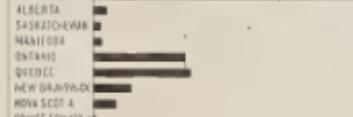
MILLIONS OF CUBIC FEET



AVERAGE ANNUAL VALUE OF LUMBER PRODUCTION

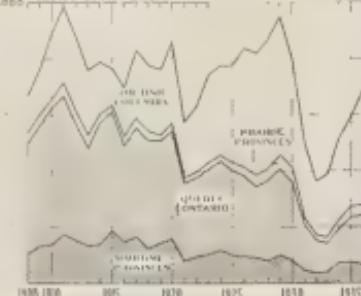
BY PROVINCES, 1931-4

THOUSANDS OF DOLLARS



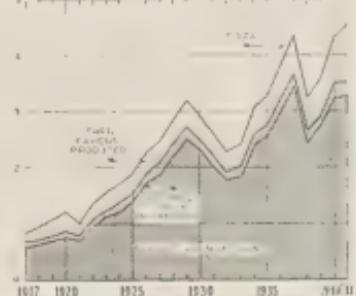
PRODUCTION OF LUMBER, BY REGIONS

MILLIONS OF BOARD FEET 1928 = 100



PAPER PRODUCTION AND NEWSPRINT EXPORTS

MILLIONS OF TONS





A Splendid Stand of
Sugar Maple in Eastern Canada.

Courtesy, Ontario Department of Lands and Forests



A Valuable Sitka Spruce Stand in British Columbia.—Such stands are being rapidly denuded by the increased war-time demands for this species.

Courtesy, National Film Board



A Mixed Stand of Western
Red Cedar, Hemlock and Douglas Fir

Courtesy, National Film Board



A Growth of Pine in the
Parklands Area of the Prairie Provinces.

Courtesy, Dominion Forest Service

Firewood for Winter.—Citizens everywhere are looking to Canadian forests to help solve the present acute fuel situation.

Courtesy, National Film Board



heating and cooking. A special condition developed in Vancouver and other coast centres where many homes and buildings are equipped for heating with sawmill refuse, which was also in short supply. A Deputy Administrator of Wood

Fuel was appointed under the Coal Controller of the Wartime Prices and Trade Board in July, 1942, and a survey of the situation was undertaken. Ceiling prices were established and efforts were made to ensure at least a minimum supply for all concerned. In 1943 this activity was transferred to the Department of Munitions and Supply and placed under direction of a Wood Fuel Controller. Normally, cutting is carried on in the autumn and winter to meet the requirements of the following winter, but it became evident by March of 1943 that the season would have to be prolonged if sufficient supplies for 1943-44 were to be obtained. Under the direction of the Wood Fuel Controller the Commodity Prices Stabilization Corporation has therefore paid a subsidy to wood-fuel dealers at the rate of \$1 per cord on cordwood of commercial grade contracted for and cut between Mar. 5 and Dec. 31, 1943, and held for the dealer's account. To encourage dealers to move cordwood and millwood to markets where fuel is needed from areas beyond those from which supplies are normally secured, a further subsidy covering transportation costs is payable. Where these measures are still insufficient to ensure adequate supplies for sale at ceiling prices, it has been announced recently that the Wood Fuel Controller may authorize additional Government assistance as required. The Commodity Prices Stabilization Corporation is prepared to purchase any wood fuel on which the \$1 subsidy has been paid, still in the hands of dealers on May 31, 1944.

Effects of War on the Forests

It is self-evident that the extraordinary demand created by the War for forest products of all kinds has imposed an abnormal drain on the reserves of merchantable timber. There has been particularly severe over-cutting of such specially valuable trees as Sitka spruce and the finer specimens of yellow birch. In addition, shortages of labour have seriously hampered protection of the forests against fire and other enemies, and forest research has been brought almost to a standstill.

If the forests are not to be impaired, the volumes of wood removed each year to serve useful purposes and the volumes burned or destroyed by pests must be

replaced by annual growth. It becomes very important, therefore, to form at least an approximate judgment as to whether or not such replacement is, in fact, taking place. The relationship between the normal pre-war rate of depletion and the rate effective under war conditions in 1941, when both utilization and losses were abnormally high, is illustrated in the following statement.

FOREST DEPLETION

NOTE.—Volumes are stated in millions of cubic feet of standing timber.

	<i>Ten-Year Average 1930-39 (Pre-War)</i>	1941
Cut for use.....	2,519	3,354
Destroyed by fire.....	404	1,045
Destroyed by insects and tree diseases.....	700	700
 Totals.....	 3,623	 5,099

In the ten-year period 1930-39, 70 p.c. of the total volume of depletion was used and 30 p.c. was destroyed by fire and pests. In 1941 only 66 p.c. was used while 34 p.c. was so destroyed.

All of the material utilized was taken from that portion of the forest which is classed as productive and accessible, and practically all of the material reported to be destroyed was in the same area, estimated at 275 million acres. A simple calculation will show that the average rate of depletion current before the War could be replaced if the annual rate of growth over the whole accessible productive forest averaged about 14 cubic feet per acre, but replacement of the 1941 depletion would require an average growth rate of $18\frac{1}{2}$ cubic feet.

Although many studies of rates of growth in Canadian forests have been made, it is not yet possible to estimate with confidence the actual growth in the forest as a whole. It is known, however, that in a number of countries in Northern Europe, where the forests have been under relatively intensive management for considerable periods of time, an average annual growth of 28 cubic feet per acre is obtained; and growing conditions in Canadian forests are at least as good as those in Northern Europe. On the other hand, forest management in Canada is only in a rudimentary stage of development, and the full rate of production of which our forest soils are capable cannot be obtained until more intensive methods of management are introduced. It seems probable that, under pre-war conditions, growth was in fact equal to depletion in the forests of Canada, so far as total volume of trees of all species was concerned; but it would be rash to assume that the much higher rate experienced in 1941 could be maintained indefinitely under present methods of operation without serious consequences.

The above summary does not by any means tell the whole story. Even if total growth were equal to total depletion before the War, we are not justified in assuming that the original and very favourable distribution of tree species in the forest was being maintained. In some cases valuable kinds of timber have been removed and replaced by species of inferior utility. For example, a stand of good spruce saw timber may be burned and the site it formerly occupied reproduced to poplar and birch. Again, the whole of the accessible productive forest is not worked uniformly since a large proportion of the annual cut is taken from the most easily reached stands in order to keep current operating costs at a minimum. This tendency has been

accentuated by the War and, unfortunately, has become a necessity in the past two years, in order to maintain production with a dwindling labour force. A third factor, tending to reduce the value if not the volume of the forests, becomes operative when very large trees of great age are felled. Such virgin timber is mature or over-mature and, if it is not used, will eventually die and fall. Nevertheless, the high-quality logs yielded by such timber will eventually disappear from the market because the time needed for their growth, counted in hundreds of years, is too great to be contemplated under any planned system of forest cropping. This is of particular importance on the west coast of British Columbia where Canada's last great virgin forests are being logged, and where one-half of the total Canadian output of sawn lumber is produced. The gradual consumption of these magnificent stands does not necessarily mean that the annual output of wood will be reduced; but it does mean that industry will have to be adapted gradually to the use of smaller logs.

The importance of the wood and paper group of industries to the whole Canadian economy is such that maintenance of the forests in a productive condition is a matter for general concern. So large a proportion of the land area of the nine provinces is better suited for growing crops of trees than for any other purpose that the production of forest products must be regarded as a permanent activity in future if the people of Canada are to obtain a full measure of benefit from their natural resources. Furthermore, the fact that 90 p.c. of all forests are owned by the Crown, and administered by the Provincial Governments in the public interest, gives an added incentive for public support of progressive forest policies.

In the post-war period the forests of Canada will be required to make important contributions to programs of reconstruction both at home and abroad. They offer a broad field in which large numbers of returned members of the fighting forces and former employees of the munitions industry can be given useful work during the period which must elapse while war industries are being transformed to a peace-time basis. Additional facilities which will lead to reduction of annual wastage through fires, insects and tree diseases are urgently needed, especially forest roads; forest inventories must be completed as an essential basis for better management; and much valuable work can be undertaken to improve the productivity of the more accessible forest lands. It is expected that forest industries, normally one of the chief sources of employment in the country, will be able gradually to absorb large numbers of men and thus assist in their permanent re-establishment.

It would be premature to attempt to make any detailed assessment of the future prospects of Canadian forest products in world trade, but it seems certain that very large quantities of Canadian lumber will be needed in Europe, and perhaps in the Orient as well, during the reconstruction period. World demand for wood and its products is very great and scientific research is constantly finding new and hitherto undreamed-of uses for this complex raw material. It seems probable, therefore, that in the long run external demands for Canadian forest products will expand. If such future developments are accompanied by the adoption of wise forest policies at home, the forest industries will continue to be one of the chief sources of Canada's wealth.

CHAPTER I

Population—Vital Statistics

Population

The present population of the earth is estimated at approximately 2,170,000,000.* The British Empire, which covers slightly less than one-quarter of the land area of the earth, has an estimated population of 500,774,000† or slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the area of the British Empire, has a population of 11,506,655 (1941 census) or about one forty-fifth of the Empire population. The latest official estimates of population of other British countries are: the British Isles, 50,744,000 (1940); Union of South Africa, 10,522,000 (1941); Australia, 7,137,000 (1941); New Zealand, 1,639,000 (1942); all India, 388,998,000 (1941 census). While there is no absolute standard for population density, a certain minimum density is desirable.

Growth of the Canadian Population.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest, with the exception of Australia where growth was greater by a fraction of 1 p.c. A century earlier the United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid population growth than that of Canada in the early decades of the twentieth century. In 1871, only 2·97 p.c. of the population dwelt west of Lake of the Woods. In 1921 the proportion was 28·37 p.c., in 1931, 29·50 p.c. and in 1941, 28·30 p.c.

* The Statistical Year Book of the League of Nations, 1941-42, gives the population of the world as 2,170,000,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

† The Statesman's Year Book, 1943.

Populations of Canada, Census Years 1871-1941

Province	1871	1881	1891	1901	1911	1921	1931	1941
P.E.I.	94,021	108,891	109,078	103,259	93,728	88,615	88,038	95,047
N.S.	387,800	440,572	450,396	459,574	492,338	523,837	512,846	577,962
N.B.	283,594	321,233	321,263	331,120	351,889	387,876	408,219	457,401
Que.	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776 ¹	2,360,510 ^{2,3}	2,874,662 ³	3,331,882
Ont.	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292 ¹	2,933,662	3,431,683	3,787,655
Man.	25,228	62,260	152,506	255,211	461,394 ¹	610,118	700,139	729,744
Sask.	—	—	—	91,279	492,432	757,510	921,785	895,992
Alta.	—	—	—	73,022	374,295 ⁴	588,454	731,605	796,169
B.C.	36,247	49,459	98,173	178,657	392,480	524,582	694,263	817,861
Yukon.	—	—	—	27,219	8,512	4,157	4,230	4,914
N.W.T. ⁵	48,000	56,446	98,967	20,129	6,507 ^{1,4}	8,143 ³	9,316 ³	12,028
Canada.	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949²	10,376,786	11,506,655

¹ Corrected as a result of the Boundaries Extension Acts, 1912.

with the Labrador Award of the Privy Council, Mar. 1, 1927. The total for Canada includes 485 members of the Royal Canadian Navy who were recorded separately in 1921.

² Revised in accordance

with the publication of the 1943 Handbook.

³ Revised since the publication of the 1943 Handbook.

⁴ Corrected by transfer of population of Fort Smith (368) to the Northwest Territories.

⁵ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.

Sex and Age Distribution.—The population of Canada in 1941 was made up of 5,900,536 males and 5,606,119 females. Thus there were 513 males and 487 females per 1,000 population as compared with 518 males and 482 females in 1931. The trend of masculinity has decreased in late years due to the falling off in immigration which is always a strong influence in building up a masculine predominance in the age groups between 15 and 30 years. However, for 1941 the provinces of Prince Edward Island and New Brunswick showed a small increase in masculinity compared with 1931; elsewhere (with the exception of the Northwest Territories where the masculinity showed a substantial increase from 538 per 1,000 in 1931 to 557 in 1941) the proportion of females has increased.

Sex and Age Distribution, by Provinces, 1941

Age Group	Prince Edward Island		Nova Scotia		New Brunswick		Quebec	
	Males	Females	Males	Females	Males	Females	Males	Females
0- 4 years.....	4,877	4,648	29,353	28,417	25,337	24,725	179,007	174,428
5- 9 "	4,868	4,790	28,268	27,416	24,176	23,732	175,179	172,761
10-14 "	4,834	4,656	28,120	27,266	23,957	23,864	181,899	179,539
15-19 "	4,678	4,506	28,523	27,898	24,679	23,765	175,941	175,252
20-24 "	4,472	3,790	27,934	27,031	22,026	20,281	148,355	155,882
25-34 "	7,326	6,165	47,719	42,785	34,916	31,920	262,195	266,555
35-44 "	5,242	4,732	32,681	30,511	24,733	23,902	201,846	198,754
45-54 "	4,690	4,489	28,084	26,544	21,497	20,156	155,708	146,612
55-64 "	3,755	3,573	22,036	20,350	16,362	14,939	106,405	99,609
65-69 "	1,531	1,469	8,939	8,188	6,461	5,760	36,162	34,997
70 or over.....	2,955	3,001	14,387	15,512	9,953	10,260	50,285	54,511
All Ages...	49,228	45,819	296,044	281,918	234,097	223,304	1,672,982	1,658,900
	Ontario		Manitoba		Saskatchewan		Alberta	
0- 4 years.....	151,497	146,427	31,349	30,310	43,312	41,641	37,975	36,926
5- 9 "	152,909	148,606	31,657	30,567	44,683	43,550	38,425	37,423
10-14 "	164,605	160,199	34,095	33,001	48,231	46,659	39,198	38,505
15-19 "	172,133	166,983	36,675	36,718	48,857	47,152	39,335	39,023
20-24 "	163,579	160,410	34,898	34,375	44,204	40,893	37,524	36,090
25-34 "	305,515	296,695	59,225	58,055	68,850	63,345	63,955	58,583
35-44 "	267,392	251,309	45,514	42,594	53,225	46,180	55,124	43,813
45-54 "	229,448	217,263	44,422	38,213	54,937	41,261	50,885	36,711
55-64 "	169,281	162,079	35,409	27,016	44,343	28,417	39,939	25,494
65-69 "	57,724	58,618	10,649	8,390	12,351	7,997	11,150	7,353
70 or over.....	87,118	97,865	14,186	12,426	14,570	11,334	12,948	9,790
All Ages...	1,921,201	1,866,454	378,079	351,665	477,563	418,429	426,458	369,711
	British Columbia		Yukon		Northwest Territories		CANADA	
0- 4 years.....	30,118	29,394	234	235	844	800	533,903	517,951
5- 9 "	27,969	26,946	194	204	764	733	529,092	516,728
10-14 "	30,580	30,126	183	166	602	592	556,304	544,573
15-19 "	33,727	32,893	128	124	536	509	565,212	554,823
20-24 "	34,153	35,094	220	168	591	456	517,956	514,470
25-34 "	68,359	65,617	637	348	1,234	837	919,931	890,905
35-44 "	57,935	48,461	441	177	936	597	745,069	691,030
45-54 "	57,741	46,723	310	139	647	370	648,369	578,481
55-64 "	55,565	38,388	335	116	361	271	493,791	420,252
65-69 "	17,266	12,327	185	42	99	66	162,517	145,207
70 or over.....	21,618	16,861	286	42	86	97	228,392	231,699
All Ages...	435,031	382,830	3,153	1,761	6,700	5,328	5,900,536	5,606,119

A Recent View of Edmonton.—The commercial centre and railhead of the extended developments that are now going on in the Canadian northwest and Alaska.



Rural and Urban Population.—For the purposes of the census, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. On the basis of this classification, urban communities absorbed 60.22 p.c. of the total increase in population between 1931 and 1941, with the result that the urban population of Canada in 1941 exceeded the rural by 998,177. Out of every 1,000 persons in the country, 457 were resident on June 2, 1941, in rural and 543 in urban communities, as compared with 463 in rural and 537 in urban communities on June 1, 1931. Details of the population of all cities and towns having over 15,000 inhabitants are given by censuses from 1891 to 1941 in the table on pp. 55 and 56.

Some of the larger cities have in their neighbourhoods "satellite" towns or other densely settled areas in close economic relationship with the central municipality. Computed on the basis of "greater" or "metropolitan area", the total populations at the Census of 1941 were as follows: "Greater Montreal", 1,139,921; "Greater Toronto", 900,491; "Greater Vancouver", 351,491; "Greater Winnipeg", 290,540; "Greater Ottawa", 215,022; "Greater Quebec", 200,814; "Greater Hamilton", 176,110; "Greater Windsor", 121,112; "Greater Halifax", 91,829; "Greater London", 86,740; "Greater Victoria", 75,218; "Greater Saint John", 65,784.

Rural and Urban Populations, by Provinces, 1931 and 1941

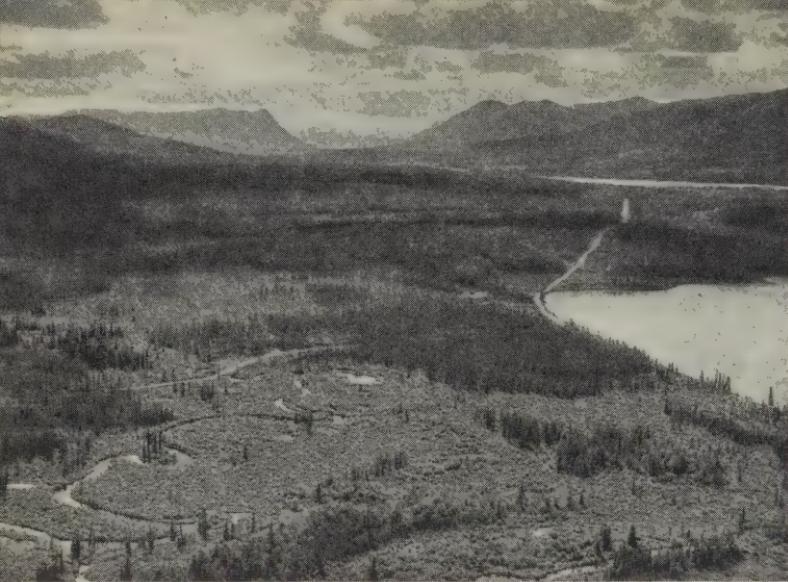
Province or Territory	1931		1941		Numerical Increases 1931-41	
	Rural	Urban	Rural	Urban	Rural	Urban
Prince Edward Island..	67,653	20,385	70,707	24,340	3,054	3,955
Nova Scotia.....	281,192	231,654	310,422	267,540	29,230	35,886
New Brunswick.....	279,279	128,940	313,978	143,423	34,699	14,483
Quebec.....	1,061,056	1,813,606	1,222,198	2,109,684	161,142	296,078
Ontario.....	1,335,691	2,095,992	1,449,022	2,338,633	113,331	242,641
Manitoba.....	384,170	315,969	407,871	321,873	23,701	5,904
Saskatchewan.....	630,880	290,905	600,846	295,146	-30,034	4,241
Alberta.....	453,097	278,508	489,583	306,586	36,486	28,078
British Columbia.....	299,524	394,739	374,467	443,394	74,943	48,655
Yukon.....	2,870	1,360	3,117	1,797	247	437
Northwest Territories...	9,316	Nil	12,028	Nil	2,712	-
Canada.....	4,804,728	5,572,058	5,254,239	6,252,416	449,511	680,358



Populations of Cities and Towns having over 15,000 Inhabitants in 1941,
Compared with Census Years 1891-1931

NOTE.—Urban centres in which a Board of Trade exists are indicated by an asterisk (*), and those in which there is a Chamber of Commerce by a dagger (†). In all cases the populations for previous censuses have been rearranged to cover the same areas as in 1941.

City or Town	Province	Populations				
		1891	1901	1911	1921	1941
*†Montreal.....	Quebec.....	254,278	325,653	490,504	618,506	818,577
*Toronto.....	Ontario.....	181,215	218,504	381,833	521,893	631,207
*Vancouver.....	British Columbia.....	13,709	29,432	120,847	163,220	246,593
*Winnipeg.....	Manitoba.....	25,639	42,340	136,035	179,087	218,785
†Hamilton.....	Ontario.....	48,959	52,634	81,969	114,151	155,547
*Ottawa.....	Ontario.....	44,154	64,226	87,062	107,843	126,872
*Quebec.....	Quebec.....	63,090	68,840	78,118	95,193	130,594
†Windsor.....	Ontario.....	12,607	15,198	23,433	55,935	98,179
†Edmonton.....	Alberta.....	—	4,176	31,064	58,821	79,197
*Calgary.....	Alberta.....	3,876	4,392	43,704	63,305	83,761
†London.....	Ontario.....	31,977	37,976	46,300	60,959	71,148
*Halifax.....	Nova Scotia.....	38,437	40,832	46,619	58,372	59,275
†Verdun.....	Quebec.....	296	1,898	11,629	25,001	60,745
*Regina.....	Saskatchewan.....	—	2,249	30,213	34,432	53,209
*Saint John.....	New Brunswick.....	39,179	40,711	42,511	47,166	47,514
†Victoria.....	British Columbia.....	16,841	20,919	31,660	38,727	39,082
*Saskatoon.....	Saskatchewan.....	—	113	12,004	25,739	43,291
†Three Rivers.....	Quebec.....	8,334	9,981	13,691	22,367	35,450
†Sherbrooke.....	Quebec.....	10,097	11,765	16,405	23,515	28,933
*Kitchener.....	Ontario.....	7,425	9,747	15,196	21,763	30,793
†Hull.....	Quebec.....	11,264	13,993	18,222	24,117	29,433
*Sudbury.....	Ontario.....	—	2,027	4,150	8,621	18,518
*Brantford.....	Ontario.....	12,753	16,619	23,132	29,440	30,107
Outremont.....	Quebec.....	795	1,148	4,820	13,249	28,641
†Fort William.....	Ontario.....	2,176	3,633	16,499	20,341	26,277
†St. Catharines.....	Ontario.....	9,170	9,946	12,484	19,881	24,753
†Kingston.....	Ontario.....	19,263	17,961	18,874	21,753	23,439
*Timmins.....	Ontario.....	—	—	—	3,843	14,200
*Sydney.....	Nova Scotia.....	2,427	9,909	17,723	22,545	23,089
†Oshawa.....	Ontario.....	4,066	4,394	7,436	11,940	23,439
Westmount.....	Quebec.....	3,076	8,856	14,579	17,593	24,235
*Sault Ste. Marie.....	Ontario.....	2,414	7,169	14,920	21,092	23,082
†Peterborough.....	Ontario.....	11,391	12,886	18,360	20,994	22,327
Glace Bay.....	Nova Scotia.....	2,459	6,945	16,562	17,007	20,706
†Port Arthur.....	Ontario.....	2,698	3,214	11,220	14,886	19,818
*Guelph.....	Ontario.....	10,537	11,496	15,175	18,128	21,075
*Moncton.....	New Brunswick.....	8,762	9,026	11,345	17,488	20,689
*New Westminster.....	British Columbia.....	6,678	6,499	13,199	14,495	17,524
Moosejaw.....	Saskatchewan.....	—	1,558	13,823	19,285	21,299
†Niagara Falls.....	Ontario.....	4,528	5,702	9,248	14,764	19,046



The Alaska Highway.—This aerial view shows the type of country through which it passes.

Courtesy, National Film Board

Populations of Cities and Towns having over 15,000 Inhabitants in 1941,
Compared with Census Years 1891-1931—concluded

City or Town	Province	Populations					
		1891	1901	1911	1921	1931	1941
†Shawinigan Falls.	Quebec	—	—	4,265	10,625	15,345	20,325
†Lachine.	Quebec	4,819	6,365	11,688	15,404	18,630	20,051
†Sarnia.	Ontario	6,692	8,176	9,947	14,877	18,191	18,734
*St. Boniface.	Manitoba	1,553	2,019	7,483	12,821	16,305	18,157
†St. Hyacinthe.	Quebec	7,016	9,210	9,797	10,859	13,448	17,798
*Brandon.	Manitoba	3,778	5,620	13,839	15,397	17,082	17,383
*Chatham.	Ontario	9,052	9,068	10,770	13,256	14,569	17,369
†St. Thomas.	Ontario	10,366	11,485	14,054	16,026	15,430	17,132
*Valleyfield (Salaberry de)	Quebec	5,515	11,055	9,449	9,215	11,411	17,052
*Stratford.	Ontario	9,500	9,959	12,946	16,094	17,742	17,038
†Chicoutimi.	Quebec	2,277	3,826	5,880	8,937	11,877	16,040
†Belleville.	Ontario	9,916	9,117	9,876	12,206	13,790	15,710
*North Bay.	Ontario	1,848	2,530	7,737	10,692	15,528	15,599
*Galt.	Ontario	7,535	7,866	10,299	13,216	14,006	15,346

Racial Origins.—The object of securing information on racial origin at the census is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" does not, therefore, apply here. This information is separate altogether from that of nationality or birthplace where the answer "Canadian" or "Canada" is applicable.

Racial Distribution.—The population of English origin increased by 226,983 in 1941 compared with 196,061 in the previous decade; that of Scottish origin by only 57,624 compared with 172,725; and that of Irish origin by 36,894 compared with 123,005. The population of British Isles races increased from 5,381,071 to 5,715,904, or by 334,833, between 1931 and 1941. This represented 29.6 p.c. of the total increase as compared with 32.2 p.c. of the total increase for the previous decade. On the other hand, the population of French origin increased from 2,927,990 in 1931 to 3,483,038 in 1941 or by 555,048 (49.1 p.c. of the total increase for the decade) and showed the greatest absolute increase for any decade since 1871. The following table gives figures from the beginning of the century for the chief racial groups making up the Canadian population.

POPULATION

Origins of the People, Census Years 1901-41

Origin	1901	1911	1921	1931	1941
British Isles Races—					
English.....	1,260,899	1,871,268	2,545,358	2,741,419	2,968,402
Irish.....	988,721	1,074,738	1,107,803	1,230,808	1,267,702
Scottish.....	800,154	1,027,015	1,173,625	1,346,350	1,403,974
Other.....	13,421	26,060	41,952	62,494	75,826
Totals, British Isles Races..	3,063,195	3,999,081	4,868,738	5,381,071	5,715,904
French.....	1,649,371	2,061,719	2,452,743	2,927,990	3,483,038
Austrian.....	10,947 ¹	44,036	107,671	48,639	37,715
Belgian.....	2,994	9,664	20,234	27,585	29,711
Bulgarian.....	—	—	1,765	3,160	3,260
Chinese.....	17,312	27,831	39,587	46,519	34,627
Czech and Slovak.....	—	—	8,840	30,401	42,912
Finnish.....	2,502	15,500	21,494	43,885	41,683
German.....	310,501	403,417	294,635	473,544	464,682
Greek.....	291	3,614	5,740	9,444	11,692
Hebrew.....	16,131	76,199	126,196	156,726	170,241
Hungarian.....	1,549 ²	11,648 ²	13,181	40,582	54,598
Indian and Eskimo.....	127,941	105,611	133,724	128,890	125,521
Italian.....	10,834	45,963	66,769	98,173	112,625
Japanese.....	4,738	9,067	15,868	23,342	23,149
Negro.....	17,437	16,994	18,291	19,456	22,174
Netherland.....	33,845	55,961	117,505	148,962	212,863
Polish.....	6,285	33,652	53,403	145,503	167,485
Roumanian.....	354 ³	5,883 ³	13,470	29,056	24,689
Russian.....	19,825	44,376	100,064	88,148	83,708
Scandinavian ⁴	31,042	112,682	167,359	228,049	244,603
Ukrainian.....	5,682	75,432	106,721	225,113	305,929
Yugoslavic.....	—	—	3,906	16,174	21,214
Various.....	7,000	31,381	8,796	27,476	67,357
Unspecified.....	31,539	16,932	21,249	8,898	5,275
Grand Totals.....	5,371,315	7,206,643	8,787,949	10,376,786	11,506,655

¹ Includes Bohemian, Bukovinian and Slavic.

² Includes Lithuanian and Moravian.

³ Includes Bulgarian.

⁴ Includes Danish, Icelandic, Norwegian and Swedish; in 1931 they numbered, respectively, 34,118, 19,382, 93,243, 81,306; in 1941, 37,439, 21,050, 100,718, 85,396.

Birthplaces.—In addition to, or as supplementary to, the question of racial origin, it is important to know the birthplaces of the population—the number of the population, for instance, born in Canada. Such Canadian born may, of course, be of any racial origin, e.g., English, French, German, etc. The following table gives the birthplaces of the population as shown in the past five decennial censuses.

Birthplaces of the Population, Census Years 1901-41

Year	Canadian Born	Other British Born ¹	Foreign Born			Total Population	Percentages of Total Population				
			United States Born	Other Foreign Born	p.c.		Canadian Born	Other British Born	Foreign Born		
									United States Born	Other Foreign Born	
	No.	No.	No.	No.	No.	p.c.	Canadian Born	Other British Born	p.c.	p.c.	
1901..	4,671,815	421,051	127,899	150,550	5,371,315	86.98	7.84	2.38	2.80		
1911..	5,619,682	834,229	303,680	449,052	7,206,643	77.98	11.58	4.21	6.23		
1921..	6,832,224	1,065,448	374,022	516,255	8,787,949	77.75	12.12	4.26	5.87		
1931..	8,069,261	1,184,830	344,574	778,121	10,376,786	77.76	11.42	3.32	7.50		
1941..	9,487,808	1,003,769	312,473	701,660	11,506,655 ²	82.46	8.72	2.72	6.10		

¹ Includes some hundreds of persons born at sea.

² Includes "birthplace not stated".

Religions.—Of the total population in 1941 (11,506,655), 4,986,552 or 43.34 p.c. were members of the Roman Catholic faith (including 185,657 Greek Catholics). The United Church of Canada, with 2,204,875 members or 19.16 p.c. of the population, was second and the Anglicans, with 1,751,188 or 15.22 p.c., third. The Presbyterian was the next largest group with 829,147 members or 7.21 p.c. in 1941.

Membership of the Eight Leading Religious Denominations, Census Years 1901-41

Religious Denomination	1901	1911	1921	1931	1941
Roman Catholic.....	2,229,600	2,833,041	3,389,626	4,285,388 ¹	4,986,552 ¹
United Church of Canada.....	—	—	8,728	2,017,375	2,204,875
Anglican.....	681,494	1,043,017	1,407,780	1,635,615	1,751,188
Presbyterian.....	842,531	1,116,071	1,409,406	870,728 ²	829,147 ²
Baptist.....	318,005	382,720	421,730	443,341	483,592
Lutheran.....	92,524	229,864	286,458	394,194	401,153
Jewish.....	16,401	74,564	125,197	155,614	168,367
Greek Orthodox ³	15,630	88,507	169,832	102,389	139,629

¹ Includes 186,654 and 185,657 Greek Catholics, respectively.

² These are the "continuing

Presbyterians" who did not join with the Methodists and Congregationalists to form the United Church of Canada in the 'twenties.

³ Greek Orthodox and Greek Catholics combined under the term Greek Church in 1921, in the Censuses of 1931 and 1941, Greek Catholics are included with Roman Catholics.

Membership of the Eight Leading Denominations, by Provinces and Territories, 1941

Province	Roman Catholic	United Church of Canada	Anglican	Presbyterian	Baptist	Lutheran	Jewish	Greek Orthodox
P.E.I.	42,743	24,005	5,739	14,724	5,443	45	18	10
N.S.	188,944	124,301	103,393	47,415	89,272	9,104	2,167	347
N.B.	220,454	63,268	55,155	15,382	88,766	870	1,196	85
Que.	2,894,621	100,196	162,056	56,086	12,303	7,081	65,683	12,040
Ont.	882,369	1,073,425	815,413	433,708	192,915	104,111	69,217	28,383
Man.	203,259	194,001	125,076	43,073	13,267	48,213	18,715	20,777
Sask.	243,734	230,495	117,674	54,856	19,460	104,717	4,076	37,699
Alta.	191,343	193,664	113,279	68,910	32,268	84,630	4,052	34,991
B.C.	113,282	200,817	245,531	94,300	29,780	41,772	3,235	5,198
Yukon.	742	404	2,545	422	75	368	2	67
N.W.T.	5,061	299	5,327	271	43	242	6	32
Canada...	4,986,552	2,204,875	1,751,188	829,147	483,592	401,153	168,367	139,629

Aboriginal Races

According to 1941 Census figures, the aboriginal population amounts in all to little more than 1 p.c. of the total population. The majority is made up of Indians.

Indians.—Indian affairs are administered by the Indian Affairs Branch of the Department of Mines and Resources under the authority of the Indian Act. Reserves have been set aside for the various bands of Indians in the Dominion since the earliest times and the Indians located thereon are under the supervision of the local agents of the Branch. The activities of the Branch, as guardians of the Indians, include the control of Indian education, the care of health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions, and the general supervision of their welfare.

Eskimos rolling over one of a batch of white whales that have been harpooned.



Courtesy, Hudson's Bay Company

The Indian Act provides for enfranchisement of Indians. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem. Indians who become enfranchised lose the special protection attached to their wardship, so that premature enfranchisement must be avoided.

According to the Dominion Census of 1941, the total number of Indians was 118,316 (60,182 males and 58,134 females) made up by provinces as follows: P.E.I., 258; N.S., 2,063; N.B., 1,939; Que., 11,863; Ont., 30,336; Man., 15,473; Sask., 13,384; Alta., 12,565; B.C., 24,875; Yukon, 1,508; N.W.T., 4,052.

Eskimos.—The Eskimos of Canada are found principally on the northern fringe of the mainland and on islands in the Arctic Archipelago and in Hudson Bay, although in the Baker Lake-Chesterfield Inlet area on the west side of Hudson Bay there are bands of Eskimos who are essentially an inland people, and who subsist chiefly on caribou.

The administrative care of Eskimos devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures, conserves the natural resources necessary to their subsistence. Contact with the Eskimos is maintained through permanent stations in the eastern, central, and western Arctic, at a number of which medical officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all regions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

According to the Dominion Census of 1941, there were 7,205 Eskimos in Canada, 75 p.c. of these being in the Northwest Territories. The distribution by provinces was: N.S., 4; Que., 1,778; Ont., 3; Man., 1; Sask., 4; Alta., 4; B.C., 7; N.W.T., 5,404.

Immigration

Total immigrants into Canada during the fiscal year ended in 1943 numbered 7,445 as compared with 8,865 in 1942 and 11,496 in 1941.

English, Scottish, Irish, and Welsh from overseas numbered 2,418 as compared with 2,182 and 3,104 in 1942 and 1941, respectively; immigrants from the United States totalled 4,827 in 1943 as compared with 6,311 and 7,443, respectively, for the two previous years; from other countries the number was 200 as compared with 372 and 949.

A movement not included in the immigration statistics is that of 'returned Canadians'. These Canadian citizens are divided into three groups: (a) Canadian born; (b) British born (outside of Canada); and (c) naturalized in Canada. The total for 1942-43 was 3,253 as compared with 3,318 in 1941-42.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination at the International Boundary and at ocean ports. In 1942-43 the number of entries in this class totalled 15,141,000 made up of 10,727,000 tourists, etc., 4,410,000 residents returning and 3,000 Canadians returning after residence in the United States, as mentioned in the preceding paragraph; in 1941-42 the total entries numbered 18,012,000 divided into 13,948,000 tourists, etc., 4,061,000 returning residents and 3,000 returned Canadians.

Vital Statistics

Canada has had a national system of registration since 1920, organized by the Dominion Bureau of Statistics in collaboration with the Registration Officials of the provinces.

Births, Deaths and Marriages in Canada

Province	Births			Deaths			Marriages		
	1942 ¹		1926	1942 ¹		1926	1942 ¹		1926
	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M
Prince Edward Is.	2,135	22.2	20.1	959	10.0	10.3	778	8.1	5.3
Nova Scotia.....	15,254	26.0	21.3	6,350	10.8	12.4	6,871	11.7	5.6
New Brunswick.....	12,651	27.2	26.1	5,149	11.1	12.6	4,933	10.6	7.4
Quebec.....	95,031	28.0	31.6	33,801	10.0	14.3	33,857	10.0	6.8
Ontario.....	78,080	20.4	21.4	39,085	10.2	11.3	45,468	11.9	7.5
Manitoba.....	15,670	21.2	22.9	6,410	8.7	8.3	8,395	11.4	7.1
Saskatchewan.....	18,159	20.0	25.2	6,173	6.8	7.4	7,207	8.0	6.7
Alberta.....	18,203	22.6	23.8	6,077	7.5	8.5	9,033	11.2	7.4
British Columbia.....	16,798	20.4	16.6	8,860	10.7	9.0	10,826	13.1	7.3
Canada².....	271,981	23.4	24.7	112,864	9.7	11.4	127,368	10.9	7.1

¹ Preliminary figures.

² Exclusive of Yukon and the Northwest Territories.

Births.—From 1926 to 1930 the number of births showed an upward trend rising from 232,750 to 243,495. This movement was reversed until 1939 when the number of births was 229,468 as against 229,446 in 1938. In 1940 the figure rose to 244,316; in 1941 to 255,317 and in 1942 to 271,981, the highest ever recorded in Canada. Because of the growing population, the rate showed a steady drop from 1926 to 1937 of from 24.7 to 19.8, but in 1940 the rate stood at 21.5, in 1941 at 22.2, and in 1942 at 23.4.

The influence of war on Canadian births is reflected in the sharp increases in both rates and numbers for the years 1940 to 1942, the rate for 1942 being the highest recorded since 1930.

Deaths.—The ten leading causes of death accounted for well over 76 p.c. of the total deaths in Canada in 1942 and "diseases of the heart", considered as a group, was the most important cause. Cancer was second; incidentally, the death rate from this cause has advanced almost every year from 1926 to 1942, the increase in that period being from 80.7 to 117.2 per 100,000 population; there is every indication of a smoothing out of the rate curve for this disease. This increase in deaths is rather misleading, being due to improvement in diagnostic and X-ray techniques and to the ageing of the Canadian population. In 1926 pneumonia was in third place with a rate of 89.3. Its drop in 1942 to eighth place with a rate of 49.6 is no doubt attributable to the general use of sulphanilamide and its derivatives as antigens for this disease.

Blood Donor Service.
—Each day hundreds of Canadians donate their blood for use on war fronts. Voluntary donations are made through a country-wide service maintained by the Red Cross.

Courtesy, National Film Board



Infant Mortality.—In Canada during recent years this rate has shown a substantial reduction, falling from 102 per 1,000 live births in 1926 to 61 in 1939 and 56 in 1940. However, in 1941 the rate increased to 60 per 1,000 live births and dropped again to 54 in 1942.

Infant Deaths and Death Rates in Canada

Province	Infants under One Year				Rates per 1,000 Live Births			
	1926	1940	1941	1942 ¹	1926	1940	1941	1942 ¹
Prince Edward Island.....	123	137	163	106	70	65	80	50
Nova Scotia.....	882	802	908	881	80	62	65	58
New Brunswick.....	1,095	934	936	977	106	80	76	77
Quebec.....	11,666	5,856	6,770	6,657	142	70	76	70
Ontario.....	5,302	2,959	3,294	3,132	78	43	46	40
Manitoba.....	1,122	756	788	807	77	51	53	51
Saskatchewan.....	1,681	979	946	785	81	51	51	43
Alberta.....	1,233	834	879	699	85	48	51	38
British Columbia.....	588	526	552	593	58	38	37	35
Canada².....	23,692	13,783	15,236	14,637	102	56	60	54

¹ Preliminary figures.

² Exclusive of Yukon and the Northwest Territories.

Natural Increase.—Natural increase results from the difference between births and deaths. The birth rate (as indicated in the table at p. 60) is, in general, declining in Canada, although it increased in 1940, 1941 and 1942. The death rate is declining at a somewhat lower rate (1937 and 1941 show a slight rise) with the result that the rate of natural increase has been downward on the whole since 1930. The rate for 1926 was 13.3 per 1,000; for 1929 it was 12.2; for 1933, 11.3; for 1938, 11.0; for 1940, 11.7; for 1941, 12.2; and for 1942, 13.7.

Marriages.—In 1929 marriages in Canada numbered 77,288. The depression exercised a marked influence on marriages and the marriage rate, causing a downward trend until 1933 when a gradual recovery commenced. The increase continued until 1938 when the yearly total for marriages stood at 88,438. The influence of the War is reflected in the abnormally large figures and high rates for the years 1939, 1940, 1941 and 1942 of 103,658, 123,318, 121,842 and 127,368, respectively. The 1942 marriage rate of 10.9 per thousand population is the highest Canadian marriage rate on record.

CHAPTER II

Survey of Production—National Income

Survey of Production

In this chapter only those industries generally considered to have a *direct* connection with production are considered, as, for instance, agriculture, fishing, mining, forestry, trapping, power production, manufactures, construction, and custom and repair. However, production in the economic sense includes much more than the tangible production contributed by these groups. Transportation, banking, trade and numerous other services also contribute to the nation's economy and should be taken into account when attempting a complete survey of Canada's productive capacity.

Net production is defined as the value left in producers' hands after the elimination of the cost of materials, fuel and purchased electricity and supplies consumed in the process of production. Net production is, therefore, a much better criterion of the value of an industry to the community in which it operates than gross production.

Mainly due to the requirements of war, Canada's production on the whole reached higher levels in 1941 than ever before. The net output of the nine main branches of production was greater by 18 p.c. in 1940 and by 45·6 p.c. in 1941 than in 1939. The expansion of the manufacturing industries was the most important factor in the two-year period, since the general trend of production was, of course, directed to munitions of war.

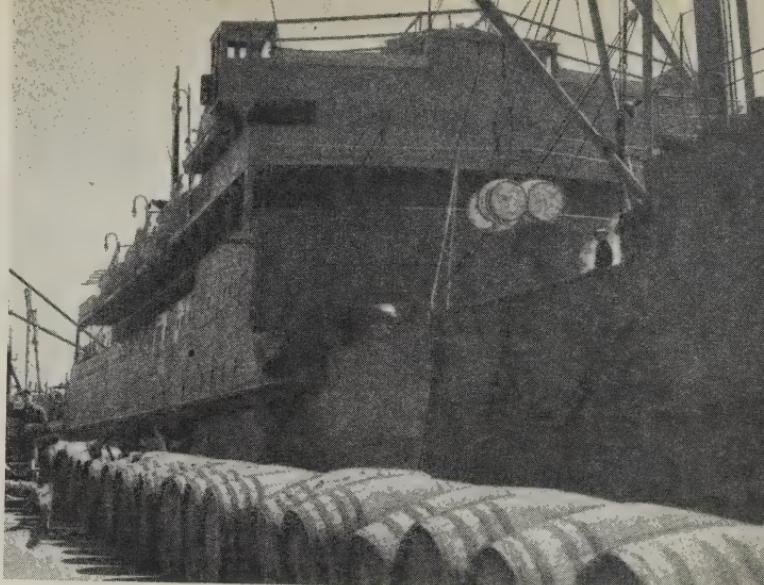
Production trends for 1942 and 1943 are indicated by the fact that the index of the physical volume of business recorded a gain of 22·2 p.c. over 1941, while the rise in employment was 14·1 p.c. The index of wholesale prices (1926=100) was 95·7 in 1942, a gain of 6·5 p.c. over the preceding year. Indexes of the physical volume of business and wholesale prices in the first ten months of 1943 showed gains of 17·1 p.c. and 4·2 p.c., respectively, over the standing in the same period of 1942, and the index of employment for Oct. 1, 1943, was 178·5 as against 172·5 on the same date of 1942.



A Single Day's Catch of British Columbia Salmon during the 1942 Season.—In all there are 125,000 fish; the highest catch for a single boat was 16,000. Catches of this size are concentrated in a few days at the peak of the season.

Barrels of Dried Egg Powder being Loaded into a Merchant Vessel for Shipment Overseas.—The people of Britain get both healthful and tasty food in compact form. Shipments of egg powder to the equivalent of over 30,000,000 doz. fresh eggs have been made to Britain in the first nine months of 1943.

Courtesy, National Film Board



In 1941, production in agriculture, which constituted nearly 45 p.c. of the aggregate for the six branches of the primary group, rose by 7·4 p.c. The heavy output of animal products to meet increased overseas demand was the main element in this expansion. Mining, second in importance among the primary industries, increased 11·6 p.c. over 1940, and forestry and electric power increased 13·9 p.c. and 11·8 p.c., respectively. Large percentage gains were shown in the operations of the fisheries and trapping industries. The net output of the fisheries rose 35·9 p.c., while the returns from trapping were 35·1 p.c. greater. Fisheries reached a higher standing than in any year since the War of 1914-18, while the revenue of trappers was higher than in any year since 1929.

The three groups engaged in secondary production achieved outstanding expansion in 1941 over the preceding year. The aggregate net production of manufactures, construction and custom and repair rose about one-third in this comparison. As stated above, manufacturing was the main single factor in Canadian industrial expansion during 1941, showing a gain of 34·1 p.c. over 1940. The totals include some industrial enterprises also listed under "primary industries", but the value of output in the latter is deducted in obtaining the grand total for Canada. The value of output in the construction industry increased by 30·3 p.c. and custom and repair posted an advance of 22·2 p.c. over the preceding year.

The size of the working force, without distinction as to status, is an excellent measure of the relative importance of the various industries in the economic life of the Dominion. Agriculture stood head and shoulders above any other industry in regard to the number engaged until the first year of the War. Manufactures, *n.e.s.*, was second in importance in this respect, but occupied only about half the number engaged in agriculture. However, the tremendous expansion in the working force employed in manufacturing industries during the war years, which amounted to about 75 p.c. between 1939 and 1942, and the decrease of 9 p.c. in the number employed in agriculture during the same period, brought manufactures to the leading position. The commodity-producing industries engaged 60·5 p.c. of the manpower in 1942, while the commodity-handling and -facilitating divisions occupied the attention of 19·1 and 20·4 p.c., respectively.

CANADA 1944

Value of Production in Canada, by Industries, 1940 and 1941

Industry	1940		1941	
	Gross	Net	Gross	Net
	\$	\$	\$	\$
Agriculture.....	1,265,112,000	885,115,000	1,431,770,000	951,025,000
Forestry.....	627,365,611	370,121,275	711,004,556	421,419,139
Fisheries.....	60,053,631	38,106,690	82,522,675	51,769,638
Trapping.....	11,207,930	11,207,930	15,138,040	15,138,040
Mining.....	748,344,045	446,080,729	866,293,332	497,904,632
Electric Power.....	166,228,773	163,780,757	186,080,354	183,146,426
Totals, Primary Production	2,878,311,990	1,914,412,381	3,292,808,957	2,120,402,875
Construction.....	474,122,778	206,893,992	639,750,624	269,561,885
Custom and Repair.....	180,126,000	110,745,000	199,377,000	135,287,000
Manufactures.....	4,529,173,316	1,942,471,238	6,076,308,124	2,605,119,788
Totals, Secondary Production.....	5,183,422,094	2,260,110,230	6,915,435,748	3,009,968,673
Grand Totals¹.....	7,260,597,365	3,823,676,973	9,250,795,729	4,720,073,033

¹ Excludes duplication in "Manufactures" of items included under primary production.

The relative importance of the nine provinces to Canadian production remained substantially the same as in 1940. The position of Ontario and Quebec as the principal producers was rather more than maintained, with Ontario's share in the Dominion's total output rising to 44.2 p.c. as compared with 43 p.c. in 1940. Quebec's contribution also increased somewhat, standing at 27.1 p.c. British Columbia retained third position with 8.1 p.c.

A certain relative recession was noted in the Prairie Provinces. Alberta, as the fourth ranking contributor, accounted for 5.9 p.c. of the total production. Saskatchewan's share dropped to 4.8 p.c. and that of Manitoba increased to 4.4 p.c. It should be remembered, however, that absolute increases in production were recorded in all cases.

Small relative change was noted in the contribution of the Maritime Provinces. The quota for each province was slightly lower at 2.9 p.c. for Nova Scotia, 2.2 p.c. for New Brunswick and 0.3 p.c. for Prince Edward Island.

Value of Production in Canada, by Provinces, 1940 and 1941

Province	1940		1941	
	Gross	Net	Gross	Net
	\$	\$	\$	\$
Prince Edward Island.....	25,121,038	13,826,491	28,010,446	13,200,776
Nova Scotia.....	232,102,253	132,038,545	265,262,337	136,855,941
New Brunswick.....	164,896,487	90,119,421	205,698,123	103,968,110
Quebec.....	1,960,693,108	1,011,051,952	2,596,572,315	1,279,353,703
Ontario.....	3,237,922,599	1,642,788,599	4,245,649,428	2,087,958,441
Manitoba.....	338,704,815	176,734,411	414,912,902	205,348,561
Saskatchewan.....	358,173,074	219,966,345	355,149,603	228,318,037
Alberta.....	398,076,785	234,388,768	443,175,858	276,898,177
British Columbia ¹	544,907,206	302,762,441	696,364,717	388,171,287
Canada.....	7,260,597,365	3,823,676,973	9,250,795,729	4,720,073,033

¹ Includes Yukon and the Northwest Territories.



Typical Prairie Scene in Harvest Time.—The elevators are seen along the railway line in the background.

Courtesy, National Film Board

National Income

Canada's national income, being a composite of volume and price, is the best measure of economic fluctuations since the end of the War of 1914-18. The total, due largely to inflated prices, reached a high level of nearly \$4,600 million in 1920 and fell off nearly 24 p.c. during the following year. The recovery was practically continuous until 1929 when a maximum of \$5,273 million was recorded. The low point of the depression was experienced in 1933, when the standing was only 52 p.c. of the total for 1929. The temporary setback of 1938 interrupted the advance, which was markedly accelerated during the war years. The standing in 1942 was \$7,500 million compared with \$6,500 million in the preceding year. An increase of at least \$1,300 million is estimated for 1943.

The relative importance of the income of the various components is a significant phase of any study of the national income. Briefly, the income of the Canadian people may be defined as the net value of the goods produced and services rendered, with certain adjustments for international transactions. The actual computation is made somewhat as follows: from the gross value, at market prices, of goods and services produced, are deducted the cost of materials and services obtained from other enterprises and depreciation charges. The resulting "net" value is the national income. From another point of view, the same result may be achieved by adding together the total payments to individuals in Canada and the undistributed profits of Canadian



'Combining'
Red Clover
Seed.

enterprise. By "undistributed profits" is meant that portion of the year's profit of a given firm or corporation which is retained by the company, as "surplus", in contrast to that portion paid out to the owners in the form of dividends or withdrawals.

It is apparent from the foregoing that national income may be considered as either a sum of payments and business savings or as a value of goods and services produced. A third approach considers national income as a sum of purchases and savings. People receive incomes for producing goods, and use these incomes to satisfy their wants, by purchasing food, clothing, automobiles, education and the like. Thus, by adding up the expenditures of individuals for consumption goods and their savings from current income, with certain adjustments, national income is again obtained.

The goods and services included in national income are generally those that pass through the market. Of the non-market elements, account is taken of the value of home-produced food consumed by farm families, since this is undeniably a form of income to the farmer. Estimated net rentals on owner-occupied houses are included since the occupants receive a real income in the form of shelter. On the other hand, the value of services rendered by housewives is excluded. Income from illegal pursuits such as robbery and gambling are disregarded, as are capital gains or losses, charity, gifts, relief payments, and other forms of income which do not result from current production.

The estimates of national income classified by industrial source show that primary production, including processing activities closely associated with forestry, fisheries and mining, accounted for 25.3 p.c. of the income originating during the period from 1919 to 1940. Secondary production, including construction, manufactures, *n.e.s.*, and custom and repair, was in second place with 19.9 p.c. Trade occupied third position, accounting for 12 p.c., while service, government, transportation and finance followed in the order named.

Approaching national income from the standpoint of payments received, it is found that remuneration of employees in the form of salaries and wages is the chief income payment and during the period 1919-40 this amounted to nearly 58 p.c. of the total, or to 61 p.c. if living allowances of so-called "unpaid labour" and other labour income are added. The withdrawals of working proprietors, mainly farmers, retailers and professionals, constituted nearly one-quarter of the total for the twenty-two years. Investment income, embracing dividends, interest, rents, etc., reached 14.6 p.c. of total income payments.

CHAPTER III

Agriculture

The Effects of War on Canadian Agriculture

In sharp contrast to the situation in the earlier years of the War, when surplus production in many lines combined with restricted outlets to produce serious marketing problems, Canada's agriculture now faces the challenge of greater and greater production to meet the needs both at home and abroad. Objectives for the 1943 production of field crops, live stock and live-stock products were set at new peaks. While unfavourable weather conditions prevented the realization of the complete program, production in many lines reached record levels.

Government measures for the direction and assistance of the farm-production program covered a wide field. New organizations set up during 1943 included an Agricultural Food Board responsible for directing policies affecting war-time food supplies; an Agricultural Advisory Committee to assist in maintaining close relationships between the Dominion Department of Agriculture and those directly concerned with production; a Joint Agricultural Committee of Canada and the United States, which keeps an eye on food production and distribution in the two countries and furthers programs of concern to both. During the year the Bacon Board was reconstituted as a Meat Board and its scope broadened to include other meats as well as pork.

An unusual Saskatchewan Landscape.—Saskatchewan ranges from dry sun-baked prairie in the south to rolling forest country in the north. The illustration shows a stretch of undulating country suitable for mixed farming.

Courtesy, Canadian Pacific Railway



Increasing competition for the available supplies of butter and meat resulted in the application of rationing. Ceiling prices, applied to a wide range of farm produce, have contributed to orderly distribution. The payment of bonuses, subsidies or subventions has been resorted to, in order to assure farmers a reasonable return for their products and to stimulate production along desired lines. Manpower regulations have helped to ease the farm labour situation, while relaxation of restrictions on the manufacture of needed farm machinery, together with the rationing of machinery to place available supplies where the need was greatest, have enabled the Canadian farmer to further his war effort.

Notable achievements have been recorded during the past year. Among these has been the application of scientific research to the techniques for the dehydration of certain farm products. This in turn has enabled Canada to turn out enormous quantities of high-quality dried eggs as well as a wide variety of dehydrated vegetables and fruits. These products fill an important place in the rations of the Armed Forces overseas and the British civilian population and also help to conserve valuable shipping space.

Each year since the beginning of the War, Canada's hog production has risen steadily. At the same time, the quantity of bacon and other pork products exported to Britain has increased sharply, a total of 675,000,000 lb. being the amount called

Canadian industry provides thousands of tons of dried eggs for Britain every year. Quality is controlled by the Department of Agriculture according to tests developed at the National Research Council; the illustration shows the operation of one of these tests (fluorescence method). The insert shows how space is saved by dehydration. A whole case of eggs (30 doz.) can be packed in a ten-pound carton.

Courtesy, National Research Council



for in the 1943 Agreement. This amount, together with supplies required for the home market, has strained the capacity of farmers to produce, and packing plants to process, in the face of shrinking manpower. In consequence, a new Agreement has been negotiated which will call for deliveries of 900,000,000 lb. during the next two years. The agreed price for the new contract will be \$22.50 per cwt., which means an advance of 50 cents over the price on the previous contract.

Should increased consumption of hogs in Canada result in a release of beef for export, arrangements will be made to ship it to Britain. It is hoped that alterations in slaughtering restrictions, together with the fact that returns from various farm products are for the most part comparable, will permit farmers to make full use of their experiences of the past two years in determining what they can do to best advantage under the circumstances affecting their separate operation.

Dairy products rank high in importance among the foods that Canadian farmers are producing for the Allied Forces and the civilian populations at home and abroad. During 1943, milk production reached an all-time high, but a sharp increase in home consumption of fluid milk cut down the expected output of manufactured products. Moreover, the rising purchasing power of Canadian consumers was reflected in greater consumption of butter and certain other dairy products.

For 1944, further increases in milk production will be welcomed and no difficulty should be experienced by farmers in finding a profitable outlet for all the milk that can be produced. Subsidies are being paid on milk used for fluid consumption, cheese-making, concentrated milk products and on butterfat. In order to assist in stabilizing the dairy industry, power has been given to the Agricultural Food Board to control the diversion of milk from one use to another.

Cheese will continue to be in strong demand, the British Ministry of Food taking all that can be made available, while the requirements for Red Cross parcels as well as for military and civilian consumption in Canada will account for substantial quantities.

Butter supplies during 1943 proved to be somewhat in excess of requirements and, as a result, Canada was able to make some butter available to the British authorities to tide them over a temporary shortage.

While egg production in 1943 exceeded that of the previous year by about 20 p.c., domestic consumption more than absorbed the surplus and shipments to Britain fell off slightly. Increases in hatchery capacity should facilitate substantial increases in chick production for 1944, although the full effects of this increase may not be realized because of feed difficulties.

One of the more noticeable effects of the War on Canadian agriculture has been the shift from wheat to coarse grains, fodder crops and oil-bearing seeds. With the cutting off of certain export markets and the accumulation in storage of record quantities of wheat and, on the other hand, the phenomenal increase in live-stock production, which created a demand for feed and fodder on a scale never before



approached, millions of acres which have been growing wheat for years are now in pasture, hay or being cropped to feed grains. Under the Wheat Acreage Reduction Plan farmers have been assisted in converting wheat acreage to more needed crops.

The demand for oil-seed crops produced in Canada has increased considerably, owing to the decrease in the import sources of oils and fats. Acreage of flaxseed and soybeans has been expanded to record proportions while considerable areas have been planted to sunflowers and rape for the production of much needed oils.

During the early months of 1943 considerable difficulty was experienced in bringing adequate supplies of feed grains from Western Canada to the eastern provinces where it was required in the production of live stock. Severe weather combined with labour shortages and congested transportation facilities hampered the movement. In an effort to forestall similar difficulties in the winter of 1943-44, the Government took steps to encourage the eastern movement of grains early in the season. Interest and storage charges on grain brought east and stored in designated elevators for winter use were paid by the Government. In addition, farmers who bought early and utilized their own storage were given further concessions by way of bonus. Movement was speeded by allowing direct shipment from country points in Western Canada to purchasers in Eastern Canada of carloads containing 3 p.c. dockage.

The Freight Assistance Policy was continued throughout 1943 and under this arrangement large quantities of grains and mill feeds were moved to eastern centres.

These measures should have an important influence in alleviating what would otherwise be a serious shortage of feed in Eastern Canada where adverse weather conditions during the 1943 growing season sharply reduced the usual output.

Agricultural Statistics

Values of Agricultural Capital and Production

As shown below, the value of agricultural capital reported in 1942 recorded an increase of about 11 p.c. over that of 1941.

Current Value of Agricultural Capital, by Provinces, 1942

Province	Lands and Buildings	Implements and Machinery	Live Stock ¹	Total
	\$'000	\$'000	\$'000	\$'000
Prince Edward Island.....	46,708	5,847	11,138	63,693
Nova Scotia.....	97,366	7,503	19,278	124,147
New Brunswick.....	88,917	9,123	20,966	119,006
Quebec.....	887,232	66,813	193,802	1,147,847
Ontario.....	1,119,492	120,838	323,251	1,563,581
Manitoba.....	238,900	49,043	99,081	387,024
Saskatchewan.....	629,838	117,413	169,800	917,051
Alberta.....	439,452	90,320	177,113	706,885
British Columbia.....	94,876	10,392	30,530	135,798
Totals.....	3,642,781	477,292	1,044,959	5,165,032
1941	3,383,475	468,715	809,085	4,661,275
1940	3,321,328	462,120	698,267	4,481,715
1939	3,371,018	469,287	656,363	4,496,668
1938	3,271,970	474,990	594,132	4,341,092
1937	3,634,981	478,454	607,316	4,720,751

¹ Includes poultry and animals on farm units.



One of the extensive ranches of Western Canada which helps to supply the men of Canada's fighting forces with more than 21,000 tons of beef a year. It has an area of 500,000 acres, and a normal staff of 250.

Courtesy, National Film Board

The gross value of agricultural production includes the value of all crops, live stock and animal products produced on farms in Canada. In 1942 the gross value of agricultural production was estimated at \$2,086,361,000 which was 45.7 p.c. higher than in 1941.

Gross Value of Agricultural Production in Canada, 1938-42

Item	1938	1939	1940	1941	1942
	\$'000	\$'000	\$'000	\$'000	\$'000
Field crops.....	550,069	685,839	676,682	683,889	1,145,778
Farm animals.....	197,600	218,385	268,679	339,305	409,192
Wool.....	1,565	1,827	2,703	2,571	3,283
Milk production.....	154,550	145,883	164,132	206,543	273,991
Fruits and vegetables.....	57,095	56,804	58,463	71,162	77,254
Poultry and eggs.....	58,933	60,829	67,135	89,008	131,282
Fur farming.....	6,476	5,793	6,143	5,519	6,697
Maple products.....	3,850	3,444	4,210	3,561	6,716
Tobacco.....	20,270	19,444	10,470	18,614	20,255
Fibre flax.....	519	1,249	1,727	3,118	4,687
Clover and grass seed.....	2,996	2,827	2,184	5,165	3,721
Honey.....	3,057	2,616	2,584	3,315	3,505
Totals.....	1,056,980	1,204,940	1,265,112	1,431,770	2,086,361

Field Crops

Acreage.—A reduction of approximately 4,000,000 acres in the area seeded to wheat in Canada was a feature of the 1943 agricultural season. This curtailment in wheat acreage was in line with production objectives agreed upon at the Dominion-Provincial Agricultural Conference held at Ottawa in December, 1942, when emphasis was again placed on the production of coarse-grain and oil-bearing seed crops. A bonus of \$2 per acre was continued as an incentive to shift from wheat to other more essential war crops.

Field Crops of Canada, 1942 and 1943

Crop	3rd Estimate 1942 Crops			2nd Estimate 1943 Crops		
	Area	Production	Gross Farm Value	Area	Production	Gross Farm Value
			\$			\$
Fall wheat.....	757,000	23,391,000	20,584,000	601,000	13,222,000	2
Spring wheat.....	20,829,500	569,293,000	371,721,000	16,886,700	280,482,000	2
All wheat.....	21,586,500	592,684,000	392,305,000	17,487,700	293,704,000	299,038,000
Oats.....	13,782,300	651,954,000	233,466,000	15,406,900	482,860,000	238,581,000
Barley.....	6,972,900	259,156,000	114,649,000	8,396,800	215,816,000	134,683,000
Fall rye.....	1,013,600	18,201,000	7,158,000	351,300	4,468,000	2
Spring rye.....	324,100	6,541,000	2,523,000	224,800	2,676,000	2
All rye.....	1,337,700	24,742,000	9,681,000	576,100	7,144,000	5,665,000
Peas.....	90,100	1,692,000	3,727,000	104,300	1,594,000	3,573,000
Beans.....	80,400	1,553,000	2,804,000	85,200	1,402,000	3,248,000
Buckwheat.....	239,800	5,207,000	3,593,000	285,900	6,225,000	4,969,000
Mixed grains.....	1,680,700	68,622,000	35,723,000	1,463,200	35,906,000	22,166,000
Flaxseed.....	1,492,200	14,992,000	29,614,000	2,797,800	17,700,000	38,937,000
Corn for husking.....	358,000	14,372,000	11,393,000	257,000	10,366,000	9,013,000
		cwt.			cwt.	
Potatoes.....	505,900	42,882,000	59,336,000	532,700	42,197,000	70,635,000
Turnips, etc.....	157,800	32,866,000	16,013,000	162,600	34,779,000	22,526,000
Hay and clover.....	9,707,000	16,061,000	169,487,000	9,815,600	17,035,000	180,883,000
Alfalfa.....	1,439,800	3,731,000	34,299,000	1,544,000	3,893,000	40,477,000
Fodder corn.....	484,800	4,401,000	17,412,000	474,800	4,104,000	17,425,000
Grain hay.....	830,000	1,668,000	7,846,000	779,500	1,259,000	7,003,000
Sugar beets.....	63,300	716,000	4,430,000	52,500	472,000	3,308,000

¹ First estimate.² Not available.

Wheat and Other Grains.—Wheat acreage in Canada in 1943 was at its lowest level in a quarter of a century. From the peak of 28,726,000 acres seeded in 1940, it fell to 17,488,000 acres in 1943. The largest reduction took place in 1941 when nearly 7,000,000 acres were taken out of wheat production and either summerfallowed or devoted to the production of other crops. Only a minor change in wheat acreage occurred in 1942, but the acreage in 1943 was the smallest since 1918.

The 1943 growing season was less favourable than that of the previous year, but the yield of wheat was better than the long-time average of 16 bu. per acre. The second estimate indicated a production of 293,704,000 bu. compared with the third estimate of the 1942 crop, which placed production at 592,684,000 bu. Substantial crops of oats, barley and flaxseed were produced in 1943 on an expanded acreage, while new crops such as rape seed, sunflower seed and soybean were planted on a larger acreage than ever before.

The value of wheat crops has been affected since 1935 by the operation of the Canadian Wheat Board. Fixed minimum prices have been set each year and producers delivering wheat to the Board have been given participation certificates that entitle them to share in profits arising from the sale of this wheat by the Board. The initial price for No. 1 Northern, basis in store Fort William-Port Arthur was 87½ cents

per bu. in the three crop years 1935-36 to 1937-38, inclusive, but in 1938-39 it was reduced to 80 cents and in the following three years 1939-40 to 1941-42, inclusive, it was 70 cents. It should be noted, however, that in the two crop years 1940-41 and 1941-42 farm storage payments were made at the rate of 1/45th of a cent per bu. per day, to growers who stored their wheat on the farm for a certain time before delivery to the Board.

On Aug. 1, 1942, the initial price of wheat was raised to 90 cents per bu., but farm storage payments were not authorized for the crop year 1942-43. On the same date minimum prices became effective for oats and barley and a fixed price of \$2.25 for No. 1 Canada Western flaxseed, basis in store Fort William-Port Arthur, and for No. 1 Canada Eastern, basis domestic freight rates in store Montreal. At the same time ceiling prices on oats, barley and rye established by the Wartime Prices and Trade Board were in effect. The ceiling on rye was removed on Apr. 10, 1943, and the fixed price for No. 1 flaxseed was raised to \$2.50 per bu. as from Aug. 1, 1943.

Trading in wheat futures was halted on the Winnipeg Grain Exchange by order of the Dominion Government, as from the close of trading on Sept. 27, 1943, and the entire handling of the Canadian wheat crop placed in the hands of the Canadian Wheat Board. The initial price of wheat was raised as from Sept. 28, 1943, to \$1.25 per bu. basis in store Fort William-Port Arthur, or Vancouver.

Production, Imports and Exports of Wheat for Canada, 1930-43

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of 4½ bu. to the barrel of 196 lb. of flour.

Year	Production	Imports of Wheat and Flour ¹	Exports of Wheat and Flour ¹	Year	Production	Imports of Wheat and Flour ¹	Exports of Wheat and Flour ¹
	'000 bu.	bu.	bu.		'000 bu.	bu.	bu.
1930...	420,672	244,221	258,693,887	1937....	180,210	6,138,819	92,957,047
1931...	321,325	216,328	207,029,555	1938....	360,010	1,891,177	160,034,183
1932...	443,061	173,014	264,304,327	1939....	520,623	444,368	192,674,368
1933...	281,892	413,165	194,779,875	1940....	540,190	122,798	231,206,246
1934...	275,849	896,674	165,751,305	1941....	314,825	29,103	222,007,141
1935...	281,935	291,510	254,424,775	1942....	556,121 ²	2,978	211,517,686 ²
1936...	219,218	403,396	195,223,653	1943....	296,259 ²	"	"

¹ Imports and exports are for the years ended July 31, 1930 to 1943.
² Not yet available.

² Subject to revision.

Grain Storage Facilities

Although Canada had on Dec. 1, 1939, grain elevators of all types with a licensed capacity of 423,000,000 bu., this was found in the succeeding years to be inadequate for the handling of accumulated surplus grain, chiefly wheat, and by Dec. 1, 1940, the addition of temporary and special annexes, as well as permanent annexes to elevators proper, brought the storage capacity up to approximately 509,000,000 bu. This was not the end of the building program, however, for by Dec. 1, 1941, the licensed storage capacity was up to approximately 600,000,000 bu. A large part of the increase in 1941 came from the erection of large temporary buildings at Fort William and Port Arthur with a licensed capacity of over 52,000,000 bu. A further



Sheep in the Hills of Kamloops District, B.C.

Courtesy, National Film Board

increase in storage facilities took place in 1942, principally at country points in Western Canada, and on May 31, 1943, total storage capacity was approximately 603,000,000 bu.

Live Stock

Since the outbreak of war, the United Kingdom has relied on Canada for an ever-increasing percentage of her supplies of meat and animal products. This, combined with the fact that very large stocks of wheat were available at the outbreak of war, has resulted in a substantial shift in Canadian agriculture from grain growing to live-stock production. The shift has been particularly marked in the Prairie Provinces and, although there have been substantial increases in numbers of cattle and sheep, by far the greatest expansion has taken place in the hog industry. The numbers of hogs on farms at June 1, 1943, amounted to 8,148,000 as compared with 3,487,000 at June 1, 1938. The urgent need for increased milk production (see p. 78) has encouraged the building up of dairy herds and there has been a decline in the commercial marketings of cattle. Higher prices to farmers for both wool and mutton have resulted in substantial increases in the numbers of sheep on farms, but it takes much longer to bring about an expansion of sheep raising as compared with hog raising. While the numbers of horses on farms have shown a tendency to decline in recent years, the rationing of gasoline and tires has resulted in an increase in the demand for horses in cities and towns, as well as on farms.

Marketings.—Commercial marketings of cattle in 1942 amounted to 1,288,617 head, of which 861,082 were sold through the stockyards, 336,184 head were sold direct to packing plants and 91,351 head were sold direct for export. Total commercial marketings in 1941 were 1,344,794 head of cattle. While there was some decline in the commercial marketings of cattle in 1942 there was an offsetting increase in the marketings of cattle through non-commercial channels. Commercial marketings of calves in 1942 amounted to 771,690 head as compared with 828,639 head in the previous year. Commercial marketings of hogs in 1942 were 6,232,087 compared with 6,225,274 head in the previous year. Again there was an increase in the non-commercial marketings in 1942 as compared with 1941. Total commercial marketings of sheep and lambs in 1942 were reported at 833,147 head as compared with 829,666 in 1941. In the case of both sheep and cattle the tendency on the part of farmers to hold back animals for the restocking of herds has resulted in increases of inventories on farms rather than in the marketings during the current year. The greater proportion of horses marketed are transferred from one farm to another and these do not appear on the stockyard records. However, there has been a considerable increase in recent years in the number of horses shipped from Western Canada to Eastern Canada through the St. Boniface yards.

Special Crops

Tobacco.—War has checked the rapid expansion in the tobacco industry, which began in 1926 and reached its peak in 1939 when a crop of 107,703,400 lb. with a farm value of \$19,443,800 was harvested. The expansion was due almost entirely to the great increase in the production of flue-cured tobacco, particularly in Ontario. Exports, mainly to the United Kingdom and largely of the flue-cured type, had been increasing during this period and, in the year 1939, amounted to 32,200,000 lb. Following the outbreak of hostilities, the United Kingdom market was virtually closed to Canadian tobacco and the situation became so acute that acreage restrictions were put into effect. Restrictions were relaxed somewhat in 1941 on account of the sharp increase in the domestic demand for unmanufactured tobacco and a slight improvement in the export situation. The full 1939 acreage allotments for flue-cured and burley tobacco were restored in 1942 when the total area was increased to 78,730 acres and a crop estimated at 89,699,400 lb. with a gross farm value of \$21,538,100 was harvested. Although all restrictions on acreage were removed in 1943, production dropped to 62,844,700 lb. from 71,600 acres, owing to unfavourable weather and a shortage of farm labour.

There has been a decided expansion in the amount of domestic leaf taken for manufacture during the war years. The most substantial rise has been in the flue-cured type where withdrawals for manufacture increased from 30,000,000 lb. for the crop year ended Sept. 30, 1939, to 43,600,000 lb. for the twelve months ended Sept. 30, 1942. The increase is due to the sharply increased consumption of cigarettes in Canada, supplemented by the tremendous volume of ships' stores, and exports to the Armed Forces abroad.

Sugar Beets.—Restrictions on cane sugar importations stimulated interest in the sugar-beet industry from the early war years, with the result that 82,270 acres were planted in 1940 as compared with 59,603 acres in 1939. A new refinery was opened at Winnipeg in 1941 and processing plants were also operating in southwestern Ontario and southern Alberta. In spite of the economic incentive of increased

prices, however, high labour requirements, including a large proportion of hand labour, have handicapped the efforts to increase sugar-beet production, and although the 1943 goal was 90,000 acres, the acreage dropped to 52,500 from 63,300 in 1942. The greatest reduction was in Ontario where a cold, wet spring reduced plantings to less than 10,000 acres compared with between 30,000 and 40,000 acres in some pre-war years. The output of refined beetroot sugar amounted to 189,066,900 lb. in 1942 with a value at the refinery of \$11,349,746.

Maple Products.—There was a considerable decline in the production of maple sugar and maple syrup in the four producing provinces in Canada in 1943, the total production in terms of maple syrup amounting to 2,299,700 gal. The crop was smaller than the 1942 crop of 3,250,600 gal. by 950,900 gal. or 29 p.c. The tapping season was longer and later than usual but weather conditions in the principal producing sections were not favourable for a good flow of sap and runs were very uneven. With supplies insufficient to meet the strong consumer demand, the crop sold readily at close to ceiling prices, the greater proportion of sales being made direct from the sugar bush to the consumer. Only a small volume reached the wholesale and retail trade and there were practically no sales on farmers' retail markets, where trading is usually very active. The total value of the 1943 crop was estimated at \$5,750,000, a decrease of 14 p.c. compared with the 1942 crop which had a farm value of \$6,716,300.

Honey.—The 1942 Canadian honey crop totalled 24,086,100 lb. as compared with 27,487,700 lb. in 1941. Although numbers of beekeepers and colonies were the highest on record, average yields were disappointingly low, the average for the Dominion being only 56 lb. per hive as compared with the long-time average of 70 lb. per hive. Nevertheless the 1942 crop of honey and beeswax was valued at \$3,505,000, which was 5.4 p.c. higher than the value of the output of the previous year, namely, \$3,314,800.

The 1943 honey crop, estimated at 33,500,000 lb., was one of the best on record. About 87 p.c. of the crop was light honey. One-third of the total production was from the Province of Ontario where 13,000,000 lb. of honey were produced as compared with the short crop of 7,800,000 lb. in the year previous. About 50 p.c. of the crop had already been marketed direct to the consumer with very little honey moving through normal trade channels when retail sales of honey were suspended by Government order, prior to the introduction of coupon rationing for this commodity effective Sept. 2, 1943.

Fibre Flax.—Under the stimulus of the war-time demands for this commodity, there has been considerable expansion in acreage and production during the past four years during which time, through action of the Agricultural Supplies Board, the whole industry has been put on a mechanized basis. Field and mill processing machinery is now manufactured in Canada, and 39 mills in Ontario and Quebec are equipped to process retted flax straw into long fibre and tow. Products of these mills are finding a ready market in Great Britain and the United States where the need for fibre and tow is urgent owing to the fact that the War has closed several sources of this strategic raw material.

The area planted to this crop increased from 10,536 acres in 1939 to 47,070 acres in 1942 and the value of flax products, which include flax fibre, seed and tow, showed a corresponding increase from \$1,249,000 in 1939 to \$4,687,000 in 1942. An objective of 75,000 acres was set for 1943, but unfavourable weather conditions brought about a reduction of the planted area to approximately 35,000 acres.

Oil-Seed Crops.—The 1943 agricultural program called for considerable increase in the acreage of oil-bearing seeds, including flaxseed, soybeans, sunflower and rapeseed. The acreage objective for flaxseed of 2,500,000 acres was exceeded by a substantial margin and, although unfavourable weather and other conditions beyond the control of the growers adversely affected the seeding of the other three crops, in every case there was some expansion over the 1942 acreage.

Production of *soybeans* in Canada was negligible prior to 1936, and the crop was grown chiefly in Ontario. The average acreage seeded in the five years 1936-40 was less than 10,000 acres, but war-time demand for oils and fats brought about an increase to about 45,000 acres in 1942, of which more than 41,000 acres were located in Ontario and the balance in Manitoba, British Columbia and Alberta. Weather conditions in the autumn of 1942 were very unfavourable for the harvest and much of the crop was lost through repeated heavy rainfall. The Canadian Wheat Board offered a guaranteed price of \$1.96 for No. 1 beans, basis Toronto, for the 1942 crop and the same price for the 1943 crop. Acreage was again expanded in 1943 to 47,000 acres in Ontario, about 6,000 in Manitoba and 1,000 in British Columbia, while Alberta acreage ranged between 500 and 1,000 acres, making a total of approximately 55,000 acres.

Crushing facilities for soybean are quite limited in Canada, but as only a small portion of the Ontario crop appeared in inspected commercial channels the quantities were insufficient to keep these facilities fully occupied and beans were imported from the United States. Production of soybean oilcake and meal in Canada during the crop year 1942-43 was about 6,000 tons while an additional 17,000 tons was imported for use in animal feeds. A small amount of Canadian soybean was processed for the production of full-fat soya flour used for human consumption.

A Field of Soybean in Manitoba.—The production of this crop in Canada is making rapid progress (see text). A large range of goods can be manufactured from soybean, including flour for bread, substitutes for peanut butter and plastics in many forms. The by-product is an excellent protein feed for live stock.

Courtesy, Industrial Development Board of Manitoba





A Crop of Celery in British Columbia.—The foliage in the background are huge fern trees that look like date palms and are plentiful along the Fraser River.

Courtesy, National Film Board

Over 147,000 lb. of *sunflower* seed was distributed by the Department of Agriculture in 1943 to approximately 1,000 growers in Western Canada. There were 10,457 acres planted in Manitoba, 16,665 acres in Saskatchewan, 1,145 acres in Alberta and one acre in British Columbia, a total of 28,268 acres. The yield is estimated at 600 to 800 lb. per acre.

About 40,000 lb. of Argentine *rapeseed* was distributed to growers in Ontario, Quebec and the Prairie Provinces, chiefly in Saskatchewan and Manitoba. Rapeseed yields between 500 and 600 lb. per acre. The oil provides a valuable lubricant used largely for marine engines.

Forage Seed Crops.—The demand for forage seed crops has been strengthened by the almost phenomenal expansion which has taken place in live-stock numbers during the war years. The commercial production of hay and pasture seeds increased from 24,767,400 lb. in 1940 to 37,778,000 lb. in 1941, 40,616,000 lb. in 1942 and 43,842,000 lb. in 1943. The 1943 crop was valued at \$4,695,800 which compares with the 1942 crop valuation of \$3,455,000.

Hops.—Hop production is largely confined to British Columbia where a crop of approximately 1,500,000 lb. with a value of about \$560,000 is produced annually.

Vegetables.—The growing of fresh vegetables for market is an important industry in many districts, particularly the suburban areas. Truck farms located in specially favoured regions provide raw materials for the vegetable-canning industry and cater to the fresh-vegetable market. The commercial production of vegetables in 1943 is estimated at 612,700 tons. Home gardens produced about 167,600 tons, including vegetable production sponsored by the Government's Victory Garden project. These estimates do not take into account the production of potatoes and table turnips.

Dairying

War-Time Regulations and Prices of Dairy Products.—Recognizing the importance of dairy products in meeting the essential war-time food requirements, it was found necessary to increase the subsidy payments previously being made to farmers, and in some cases to extend the application of these subsidies, in order to invite increased production during 1943. With regard to butter, the subsidy of 6 cents per

pound of butter-fat which had been introduced in July, 1942, was increased to 10 cents a pound in December, 1942, with the understanding that the subsidy would revert to the lower figure at the end of April. On Apr. 2, 1943, a statement of policy was announced by the Minister of Agriculture providing for a subsidy of 8 cents a pound butter-fat during the period May to December, 1943, and 10 cents during the period Jan. 1 to Apr. 30, 1944.

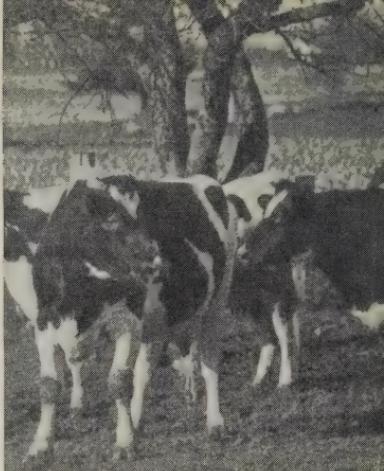
Commencing with 1943, cheese production had been encouraged by subsidy which increased the basic price to 16 cents f.o.b. Montreal, during the latter part of the season. Under a new agreement with the British Ministry of Food, covering the fiscal year 1942-43, this price had been advanced to 20 cents. Under the 1943-44 agreement, a further increase was made by setting 20 cents as the basic price f.o.b. factory instead of 20 cents f.o.b. Montreal. It was estimated that this would increase the price to the producer by approximately five-eighths to one cent a pound, depending upon the location of the factory or grading station. In addition, the payment of a quality bonus was continued, amounting to 1 cent a pound for 93-score cheese and 2 cents a pound for 94-score cheese. Thus the maximum price was advanced to approximately 22 cents a pound. In Ontario the decision to continue the provincial bonus of 2 cents a pound gave the producers of cheese in that province a maximum of approximately 24 cents. The improved position of the cheese producer was reflected in the prices received during 1943. For the whole of Canada the average farm price of milk for cheesemaking, based on dairy income estimates of the Dominion Bureau of Statistics for the first seven months of the year, was \$1.62 per hundred lb. On a butter-fat basis, this is equivalent to 46.3 cents per lb. as compared with 42.8 cents per lb. butter-fat for cream used in the production of factory-made butter. In order to stimulate cheese production, an Order in Council was passed on Sept. 10, 1943, which provided for a subsidy of 30 cents a hundred on milk used for the production of cheddar cheese on and after Oct. 1. In terms of butter-fat, producers gain an additional 8.6 cents a lb., or based on the January-July average, a total of nearly 55 cents per lb. butter-fat. Milk used for the manufacture of concentrated milk products was awarded a subsidy of 40 cents a hundred from December, 1941, to the end of April, 1942. No subsidy was provided for in the winter period of 1942-43, but on Apr. 2, 1943, it was announced that a subsidy of 25 cents a hundred would be paid to the producers of milk, concentrated into whole milk products between Oct. 1, 1943, and Apr. 1, 1944, and that these payments would be made retroactive to cover deliveries made to plants during March and April, 1943. On Oct. 1, 1943, this subsidy was advanced to 30 cents a hundred and was extended to cover milk used in making skim-milk powder, provided that such milk was not already subsidized. Fluid milk, which had been covered by a subsidy of 30 cents a hundred during the period December to April, 1941-42, was given a subsidy of 25 cents a hundred commencing Sept. 1, 1942 and, due to some adjustments in the minimum prices, the new order really represented a total price increase, equivalent to the original subsidy. On Oct. 1, a subsidy of 55 cents went into effect. The Wartime Prices and Trade Board gave some protection to the interests of consumers by ordering on Dec. 16, 1942, a reduction of 2 cents a qt. on fluid milk with provision for reimbursing the distributors to the extent of this reduction. Consumers, however, were asked to restrict the consumption of cream to provide a larger quantity of milk for other purposes, and on Jan. 1, 1943, the maximum fat content on fluid cream sales was placed at 18 p.c.

To summarize the situation at the beginning of 1944: it will be seen that cream sold for factory-butter production is covered by a subsidy of 10 cents a pound butter-fat; subject, however, to a reduction of 2 cents a pound on May 1. Cheese, milk, and milk for concentrated milk products (including that used for skim-milk powder) is subsidized at 30 cents a hundred; while fluid milk is now subject to a producer-subsidy of 55 cents per hundred and a consumer-subsidy of 2 cents a quart.

During 1943 creamery butter prices were established at the various markets on the basis of the maximum set by the Wartime Prices and Trade Board. The first of these regulations was issued toward the end of January, setting manufacturers' prices of first-grade solids at 36 cents in the Maritime Provinces, 35 cents in Ontario and Quebec, 32½ cents in Saskatchewan, 33 cents in Manitoba and Alberta, and 34½ cents in British Columbia. Three months later some adjustments were made which placed Saskatchewan and British Columbia prices ½ cent higher. Second-, third- and lower than third-grade butter were subject to a discount of 1 cent for each grade. On Apr. 2, minimum prices were established for first-grade creamery butter. The plan provided for upward adjustments as the season advanced, varying from 33 to 35½ cents in the Maritime Provinces, from 30 to 32½ cents in the Prairie Provinces, and from 32 to 34½ cents in Ontario, Quebec and British Columbia. The Dairy Products Board was also authorized to support the market by purchasing butter at Montreal, Toronto and Vancouver at the minimum prices.

Production of Dairy Products.—The production of creamery butter showed a substantial increase during the period January to April, 1943, as compared with the same period of the previous year. This, of course, was a direct result of the subsidized price arrangement which gave farmers an average of 45·7 cents per lb. butter-fat as compared with 32·9 cents in the same period of the previous season. Moreover, even with the reduction of the subsidy to 8 cents a lb., the production of the creamery product continued to advance and, at the end of October, had exceeded the ten-month output of 1942 by approximately 31 million lb., or 12·2 p.c. The total for the year is provisionally estimated at 313 million lb. as compared with over 285 million lb. in 1942.

While the butter-fat subsidy tended to increase the creamery output, it reacted in the opposite direction in the production of dairy butter. Up to the end of September, 1943, the dairy make had declined 37 p.c. as compared with the same period of the previous year, and the estimate for the year 1943 has been tentatively placed at 52 million lb. as compared with 79 million lb. for 1942. Nevertheless, regardless of this decline, the supply position at the first of October was exceptionally favourable, and the surplus available, over and above domestic requirements, was sufficient to permit the exportation of a sizeable volume of butter to the United Kingdom to help maintain the existing ration in that country of 2 oz. per week. The gain in creamery butter production, however, was obtained at the expense of cheese which fell to 147 million lb. or 22·5 p.c. below the ten-month production of 1942, and it is estimated





A Herd of Holstein Cows in Ideal Surroundings.

Courtesy, Ontario Milk Producer

that the total output for the year would not exceed 165 million lb. This represents a considerable decline from the 1942 production of nearly 207 million lb. which was the highest output on record since 1900 when nearly 221 million lb. was produced in the Dominion.

Fluid milk sales (including cream on a milk basis) were increased and, during the first nine months of 1943, exceeded the sales of the same period of the previous year by 9.3 p.c. Milk consumed in farm homes was advanced 3.0 p.c.; ice cream moved up 6.9 p.c.; milk used in concentrated milk products registered an increase of 5.5 p.c., and milk fed to live stock was approximately 1 p.c. higher than that shown in the corresponding period of the preceding year. The total milk production of Canada for 1943 has been provisionally estimated at 17,400 million lb., approximately equal to that of 1942. In 1942 the gross farm value was placed at \$273,991,000 and the total value at \$357,770,000.

Dairy Production of Canada, 1939 and 1942

Economic Area	Year	Milk		Products Made from Milk				
		Total Milk Production '000 lb.	Fluid Sales '000 lb.	Butter		Cheddar Cheese lb.	Evaporated Milk lb.	Dairy Butter lb.
				Creamery lb.	Dairy ¹ lb.			
Maritime Provinces...	1939	982,653	162,007	11,606,197	13,636,000	1,017,136	1	14,100,000
	1942	1,091,734	194,025	15,165,325	12,900,000	2,935,550	1	12,900,000
Quebec and Ontario....	1939	9,911,655	2,183,363	168,246,067	36,476,000	117,494,901	87,625,449	27,922,000
	1942	10,571,691	2,428,739	154,135,217	25,100,000	193,623,486	141,399,239	25,100,000
Prairie Provinces...	1939	4,712,865	464,707	81,674,203	50,760,000	6,035,017	1	42,750,000
	1942	5,196,542	522,769	109,933,803	38,700,000	9,496,641	1	38,700,000
British Columbia...	1939	539,309	201,438	6,086,079	2,850,000	928,305	1	2,687,000
	1942	568,695	242,412	5,357,027	1,825,000	879,787	1	1,825,000
Totals.....		16,146,482	3,011,515	267,612,546	103,722,000	125,475,359	116,885,119	87,459,000
		1942	17,428,662	3,387,945	284,591,372	78,525,000	206,935,464	183,471,063
1 Less than three firms reporting.					2 Revised figures for "dairy butter", 1939, are given in the right-hand column.			

¹ Less than three firms reporting.

² Revised figures for "dairy butter", 1939, are given in the right-hand column.

Marketing and Consumption.—In the course of the past ten years, more than 98 p.c. of the total make of creamery butter was consumed in Canada. This situation did not always exist. Exports of butter reached their highest point in 1925 when more than 24 million lb. of Canadian butter was shipped out of the Dominion, representing about 15 p.c. of the total make. In the following year, there was a pronounced decline, and since then the surplus available for export has reached an almost negligible quantity. Cheddar cheese, on the other hand, is one of Canada's principal export commodities and, next to wheat and flour, represents an export value greater than that of any other farm product. During the entire period 1933 to 1942, exports were 67 p.c. of the total production. In 1939 (the last year for which official figures were published), 91 million lb. was shipped out of Canada, the greater part of which went to the United Kingdom. In 1940-41 the export cheese quota to the United Kingdom was placed at 78 million lb.; in 1941-42 it was raised to 112 million lb.; in 1942-43 to 125 million lb.; and in 1943-44 to 150 million lb.

The domestic disappearance of butter on a per capita basis amounted to 33.14 lb. in 1942 as compared with 31.24 lb. in 1941. The demand for butter, which had shown a normal increase during the early part of 1942, increased considerably during the fall of the year. This movement was checked with the introduction of rationing on Dec. 16, 1942, whereby the sale of butter to individuals was placed at $\frac{1}{2}$ lb. per person per week, or 26 lb. per year. To further conserve supplies, the butter ration was temporarily reduced to $2\frac{1}{2}$ oz. per week by the extension of the expiry date of two coupons. This represented an allowance of 2 lb. for six weeks. The full ration, however, was restored in the month of March as the result of the favourable supply position, and this ration has since been maintained. The domestic disappearance of butter in Canada for the first ten months of 1943 amounted to 274 million lb., representing an average of 27 million lb. per month or 2.32 lb. per capita. Compared with 1942, these figures represent a considerable decline, the total domestic disappearance during the same period being 321 million lb. or 2.72 lb. per capita.

Canadians are not heavy consumers of cheese. Nevertheless, the per capita disappearance moved up from 3.74 lb. in 1940 to 4.07 lb. in 1942. The consumption of milk during the past two years has also greatly increased, in fact to a degree which threatens to produce a shortage for other purposes. In 1942, fluid sales (including both milk and cream on a milk basis) amounted to 3,388 million lb., and milk consumed in farm homes was 1,674 million lb. The total of 5,062 million lb. represents 29 p.c. of the total production. From January to October, 1943, fluid sales amounted to 319 million lb., an increase of approximately 10.1 p.c. over the sales during the corresponding period of 1942; and, with the addition of the quantity used in farm homes, reached a total of 469 million lb. as compared with 440 million lb. in the same period of the preceding year. After allowing for wastage, the estimated consumption of milk (including cream on a milk basis) represented a per capita consumption of 0.94 pint in 1942 as against 0.86 pint in 1941. It is estimated that the 1943 consumption may approximate one pint per person.

Income.—During the past few years, farmers have substantially increased their income from the sale of dairy products. In 1930 it amounted to \$105,600,000 or 16.85 p.c. of the total farm income. In 1942 this figure had risen to approximately \$224,373,000, representing 20.1 p.c. of the total farm income. With the increase that has taken place in the price of dairy products in 1943, including additional

subsidies paid by the Government, the gross farm earnings from dairy products have greatly exceeded this figure. In the first six months of 1943, income from dairy products was \$110,263,000 as compared with \$97,426,000 in the same period of 1942.

Poultry and Eggs

Poultry farming has expanded considerably during the past ten years and, in response to the war-time agricultural program, an unprecedented development took place in 1942. The production of eggs showed the most noticeable increase, but farmers are also making an important contribution to war-time food requirements by the production of poultry meat. This development has resulted to some extent from a shortage of beef and pork products in 1942; so that the consumption of poultry was greatly increased and farmers found a ready sale for all available supplies.

The population of hens and chickens at June 1, 1943, was estimated at approximately 75,000,000. Turkeys numbered approximately 2,900,000, geese 624,000 and ducks 684,000. These figures showed an increase of 10 p.c. in the number of hens and chickens as compared with those of the previous year. Declines of approximately 19 p.c., 9 p.c. and 15 p.c., respectively, were recorded in the numbers of turkeys, geese and ducks.

During the year 1942, the production of farm eggs amounted to approximately 280,000,000 doz. and is estimated at 315,000,000 doz. for 1943. Over the past few years there has been a considerable increase in the egg production per hen. The gross farm value of poultry products in 1942 was \$49,977,000 and the gross value of production of farm eggs was estimated at \$81,305,000. The domestic disappearance of poultry meat was approximately 23 lb. per capita, of which 18 lb. consisted of hens and chickens. During the war period there has been a marked increase in the exports of eggs to Great Britain, a part of which is shipped in the form of egg powder.

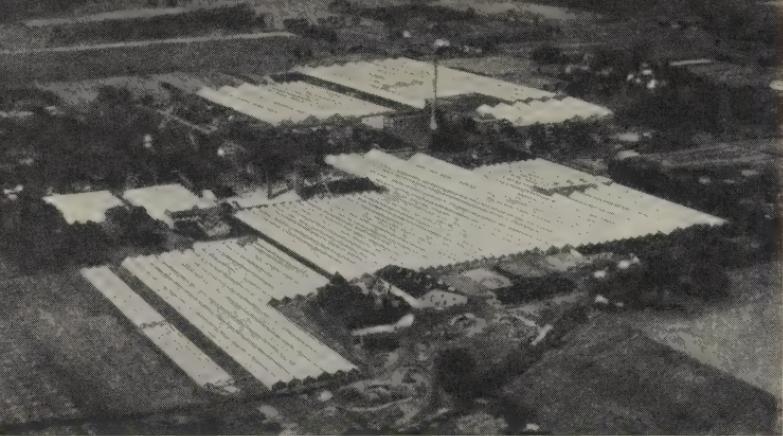
Fruit Growing

The preliminary estimates of fruit production in 1943 indicate that all crops were substantially smaller than in 1942. The estimates of the 1943 crops followed

A Picturesque Scene
in Annapolis Valley,
N.S., Famed for Its
Apple Orchards.

*Courtesy, Canadian
Pacific Railway*





The Canadian Horticultural Industry.—
The War has stimulated the home production of horticultural stock. This Ontario plant is the most completely equipped of its kind in America.

by five-year (1936-40) averages are: apples, 4,225,100 bbl. (4,813,800 bbl.); pears, 557,700 bu. (539,200 bu.); plums and prunes, 354,400 bu. (215,700 bu.); peaches, 571,100 bu. (703,300 bu.); apricots, 17,600 bu. (46,400 bu.); cherries, 184,200 bu. (186,000 bu.); strawberries, 13,927,900 qt. (24,347,500 qt.); raspberries, 8,423,200 qt. (9,617,600 qt.); loganberries, 1,702,600 lb. (1,911,700 lb.); grapes, 53,881,600 lb. (44,319,300 lb.).

Markets.—Agreements with the United Kingdom and United States make provision for the movement of a considerable volume of fresh apples from Nova Scotia and British Columbia during the 1943-44 season. In addition shipments to Newfoundland, St. Pierre and Miquelon and Iceland are also planned. A large proportion of the fruit shipped to the United Kingdom will be evaporated, but about 650,000 bushels of fresh apples are to be shipped. As the United Kingdom authorities would take fresh apples in preference to the dehydrated product some adjustment in the quantities of each may be made. Of the 350,000 bushels to be shipped to the United States, 200,000 will be British Columbia Johnathan and Delicious, while the remaining 150,000 bushels will be Nova Scotia apples of varieties suitable for processing.

The annual British Columbia Apple Marketing Agreement makes provision for assistance by the Provincial Government in the marketing of 4,250,000 boxes of apples less the quantity exported during the season. Further, the industry will receive a bonus of 15 cents per pound for choice quality evaporated apples produced in excess of 750,000 pounds. The Nova Scotia Agreement for 1943-44 is similar to that of a year ago. The Nova Scotia Fruit Board must market as much fresh fruit outside the Annapolis Valley as possible and assistance is to be given in the evaporation of the surplus.

Provincial Assistance to Agriculture

Each of the nine provinces, under Sect. 95 of the B.N.A. Act, has its Department of Agriculture, through which is carried on educational and extension work to assist farmers. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the College of Agriculture at Saskatoon. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Manitoba, Alberta and British Columbia.

CHAPTER IV

Forest Resources

The special article at the beginning of this Handbook, dealing with the influences of the War on forest resources, gives in broad outline a picture of Canada's forests and of their place in the national economy. Normally, this chapter is introduced by summary figures, but in order to save repetition the reader is referred to the introductory article.

Operations in the Woods

Generally speaking, the operations in the woods form the preliminary step in the industry and provide the primary forest products in the form of logs or bolts which are the raw material for the mill operations that form the second stage. An exact separation of the statistics relating to these two stages in the industry cannot always be made nor can the lumber industry be treated as entirely distinct from the pulp and paper industry. Woods operations produce not only sawlogs but pulpwood, ties, poles, piling, square timber, mining timbers, firewood, fence posts, wood for charcoal and excelsior manufacture, and wood for distillation. It is often impossible to state for what purpose the timber being cut will eventually be used. Many lumber manufacturers install machinery for cutting-up and barking pulpwood;

A Stand of Young Forest Growth in Ontario.

Courtesy, Ontario Forest Service



and direct a part of their spruce and balsam logs to pulp manufacture; some pulp and paper companies operate sawmills in connection with their plants for the purpose of utilizing the larger timber on their limits.

Values of the Products of Woods Operations, by Products, 1937-41

Products	1937	1938	1939	1940	1941
	\$	\$	\$	\$	\$
Logs and bolts.....	58,004,070	52,759,660	55,685,197	71,817,471	86,514,625
Pulpwood.....	63,057,205	53,761,999	58,302,668	74,347,132	88,193,045
Firewood.....	32,457,629	32,740,566	33,058,240	33,297,756	26,662,296
Hewn railway ties.....	3,129,207	2,222,509	2,048,186	1,788,001	1,547,780
Poles.....	2,455,345	2,824,512	2,940,361	2,691,107	2,467,336
Round mining timber.....	1,262,658	1,297,993	1,461,507	5,707,677	2,458,435
Fence posts.....	992,610	978,679	1,111,883	999,934	964,568
Wood for distillation.....	309,892	298,110	289,230	518,204	588,747
Fence rails.....	262,160	264,480	267,437	270,320	262,521
Miscellaneous products.....	1,319,111	1,117,349	2,582,689	3,130,273	3,503,736
Totals.....	163,249,887	148,265,857	157,747,398	194,567,875	213,163,089

The Lumber Industry

Except in the Maritime Provinces, 90 p.c. of the forest land is the property of the Crown, lumbermen being granted cutting rights only. This land is administered by the various provincial departments. Conifers usually form about 95 p.c. of the total cut of all kinds of wood, only 5 p.c. being deciduous-leave trees or hardwoods. Douglas fir is the most important kind of lumber sawn, and is produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with white pine, hemlock, cedar, and yellow birch next in order of importance.

The industry includes products of: sawmills; shingle, tie, lath, shook, stave, heading and hoop mills; and mills for the cutting-up and barking of pulpwood. Sawn lumber produced in 1941 amounted to 4,941,084 M ft. valued at \$129,287,703. Shingles numbered 4,160,772 squares at \$12,309,632, sawn ties 4,710,556 at \$2,854,958, and lath 204,991 M at \$731,227. The gross value of production for the industry as a whole showed an increase of 22 p.c. over the total for 1940.

Production of Sawn Lumber and All Sawmill Products, 1941

Province or Territory	Sawn Lumber Production		Total Sawmill Products
	M ft. b.m.	\$	
Prince Edward Island.....	4,724	98,878	130,977
Nova Scotia.....	252,490	5,822,652	6,291,112
New Brunswick.....	332,211	9,039,197	11,235,582
Quebec.....	914,691	24,401,637	30,000,903
Ontario.....	602,248	19,048,059	23,173,015
Manitoba.....	85,918	2,113,386	2,253,209
Saskatchewan.....	125,853	2,834,480	3,010,671
Alberta.....	214,619	4,294,710	4,928,517
British Columbia.....	2,407,800	61,612,222	82,364,174
Yukon.....	530	22,482	24,132
Totals.....	4,941,084	129,287,703	163,412,292



The Pulp and Paper Industry

The manufacture of paper was a relatively unimportant industry in Canada until the last two decades of the past century when wood-pulp superseded rags as a raw material. Canada's extensive pulpwood resources and widely distributed water powers have been largely responsible for the remarkable development of the industry.

The pulp and paper industry has headed the lists in net value of production since 1920, and in wage and salary distribution since 1922, replacing the sawmills in both cases. It was the first in gross value of production from 1925 (when it replaced the flour mills) until 1935 (when it was overtaken by the non-ferrous metal group). In these comparisons only the manufacturing stages of the pulp and paper industry are considered, no allowance being made for the capital invested, employment furnished, payroll, or production of those operations in the woods.

The gross value of output of the industry increased rapidly and steadily until the boom years following the War of 1914-18 and jumped to a peak of over \$232,000,000 in 1920. This was followed, in 1921, by a drop that was general throughout the industrial field. Then followed a steady recovery up to a second peak in 1929 of \$243,970,761. The 1942 total exceeded all previous records. Figures from 1930 are:—

	Gross Production	Net Production		Gross Production	Net Production
1930.....	\$215,674,246	\$107,523,731	1937.....	\$226,244,711	\$106,002,017
1931.....	174,733,954	87,858,357	1938.....	183,897,503	89,034,186
1932.....	135,648,729	66,855,923	1939.....	208,152,295	103,123,660
1933.....	123,415,492	56,880,641	1940.....	298,034,843	158,230,575
1934.....	152,647,756	77,243,309	1941.....	334,429,175	174,555,041
1935.....	159,325,546	78,647,626	1942.....	337,390,484	165,193,627
1936.....	183,632,995	85,739,406			

There are three classes of mills in the industry. These, in 1942, comprised 28 making pulp only, 50 combined pulp and paper mills, and 27 making paper only. In 1942 the 78 mills making pulp produced 5,606,461 tons valued at \$192,145,062, representing a decrease of 2 p.c. in quantity but an increase of 9.5 p.c. in value over 1941. About 69 p.c. by quantity was made in combined mills and used by them in papermaking and about 31 p.c. was made for sale in Canada and for export. Of the total pulp production in Canada in 1942, 58 p.c. was ground wood, 20 p.c. unbleached sulphite, 11 p.c. bleached sulphite, 9 p.c. soda, sulphate and other fibre, and the remaining 2 p.c. screenings, etc.

CANADA 1944

Newsprint made up 77 p.c. of the total production of Canada's 77 paper mills in 1942; paper boards 14 p.c.; wrapping paper 4 p.c.; book and writing paper 3 p.c.; and tissue and miscellaneous papers the remainder.

Production of Newsprint and Total Paper in Canada, 1934-42

Year	Newsprint Paper		Total Paper	
	Quantity	Value	Quantity	Value
			tons	\$
1934.....	2,604,973	86,811,460	3,069,516	120,892,225
1935.....	2,765,444	88,436,465	3,280,896	125,752,650
1936.....	3,225,386	105,214,533	3,806,710	146,354,666
1937.....	3,673,886	126,424,303	4,345,361	175,885,423
1938.....	2,668,913	107,051,202	3,249,358	151,650,065
1939.....	2,926,597	120,858,583	3,600,502	170,776,062
1940.....	3,503,801	158,447,311	4,319,414	225,836,809
1941.....	3,519,733	158,925,310	4,524,776	241,450,292
1942.....	3,257,180	147,074,109	4,241,767	230,962,719

Canada's newsprint production in 1942 was over three times that of the United States, a few years ago the world's chief producer. Estimated production for 1943 is 2,961,000 tons.

Monthly figures of Canadian newsprint production for 1943 are:—

	Tons
January.....	233,544
February.....	221,807
March.....	246,855
April.....	229,573
May.....	254,046
June.....	257,845
July.....	262,323
August.....	259,612
September.....	251,827
October.....	259,336
November.....	256,336
December.....	—



Topping a Giant Spruce.

*Courtesy, Toronto Star
Newspaper Service*

CHAPTER V

Fur Production

The fur trade of Canada which, in the early days, dominated all other pursuits and led to the exploration and the eventual settlement of the country, is still of importance, and a strong policy to conserve this resource has been inaugurated by the Provincial Governments in co-operation with the Dominion authorities. Laws have been passed under which provision is made for close seasons, for the licensing of trappers and traders, for the collection of royalties on pelts, and for the regulation of the methods to be employed in trapping animals. In recent years the trade has been assisted by the establishment of fur farms, which now supply nearly all the silver fox and about 44 p.c. of the mink pelts.

Trends in Production.—The value of Canada's production of raw furs for the year ended June 30, 1942, exceeded that of the preceding season by 18 p.c. and that of 1940-41 by 49 p.c. The total production comprises pelts taken by trappers and pelts sold from fur farms. It is impossible to make an exact division between the two classes, since statistics of fur farms are for the calendar year, but it is estimated that approximately 19 p.c. of the total value of raw-fur production in the season 1941-42 may be credited to fur farms.

The increase in the total value of raw-fur production in 1941-42 over 1940-41 was due in part to the rise in prices for most kinds of furs: ermine advanced from 93 cents to \$1.20; silver fox from \$21.58 to \$22.96; new-type fox from \$25.30 to \$41.54; red fox from \$6.75 to \$8.81; white fox from \$18.38 to \$25.74; muskrat from \$1.79 to \$2.06; and squirrel from 27 cents to 31 cents. During the two-year period, 1940 to 1942, the price of each of these furs has risen by between 49 p.c. in the case of silver fox, and 197 p.c., in the case of white fox.



A Platinum Mink. This is a recently developed Colour-phase of the mink.

*Courtesy, Margill Fur Farm,
Westhill, Ont.*

The total number of pelts produced showed an increase over the preceding season of 170 p.c. Muskrat, squirrel and rabbit, which are among the less expensive furs, are the kinds most largely used; in 1941-42 the number of muskrat pelts entering into the fur trade was 2,408,436, or 12.3 p.c. of the total for all kinds, squirrel pelts, 5,761,433, or 29.5 p.c., and rabbit pelts, 9,012,329 or 46.1 p.c. The percentage of the value sold from fur farms rose from 4 p.c. in earlier years to as high as 43 p.c. in 1937-38, but dropped to 19 p.c. in 1941-42.

The manufacture of fur goods (coats, collars, scarves, muffs, etc.) constitutes an important Canadian industry, which gave employment in 1941 to 4,362 persons and produced goods valued at \$26,461,326. The bulk of the fur goods produced in Canada is for domestic consumption and practically the entire Canadian demand for fur goods is met by the home product; the imports and exports of fur goods are of small



An Ontario
Muskrat Farm



Top: Feeding muskrats through the ice.

Bottom: Muskrat traps.

Inset: A trapped animal.

Courtesy, National
Film Board

An Albino Mink.

Courtesy, Industrial Development Board



importance. The fur dressing and dyeing industry operates on a custom basis; the number of skins treated in 1941 was 14,592,079, mainly rabbit, squirrel and muskrat. The total amount received by the plants for the treatment of the furs was \$2,476,289.

Numbers and Values of Pelts Taken, Seasons 1928-29 to 1941-42

Season	Pelts	Total Value	Season	Pelts	Total Value
	No.	\$		No.	\$
1928-29.....	5,150,328	18,745,473	1935-36.....	4,596,713	15,464,883
1929-30.....	3,798,444	12,158,376	1936-37.....	6,237,640	17,526,365
1930-31.....	4,060,356	11,803,217	1937-38.....	4,745,927	13,196,354
1931-32.....	4,449,289	10,189,481	1938-39.....	6,492,222	14,286,937
1932-33.....	4,503,558	10,305,154	1939-40.....	9,620,695	16,668,348
1933-34.....	6,076,197	12,349,328	1940-41.....	7,254,787	21,123,161
1934-35.....	4,926,413	12,843,341	1941-42.....	19,561,024	24,859,869

Fur Farming.—In the early days of the fur trade it was the practice in Canada for trappers to keep foxes caught out of season alive until the fur was prime and from this custom arose the modern industry of fur farming. Silver fox was the first important commercial fur bearer successfully raised in captivity and is still of greatest importance from the standpoint of total value. Experiments have lately been made at fixing the strains for such colour phases of the fox as platinum, pearl-platinum, white-face, silver-blue, ring-neck, etc. There were 6,511 of these new-type foxes on farms at the end of 1941.

Second to the silver fox in importance is the mink, which is easily domesticated and thrives in captivity if care is exercised in the selection of environment and proper attention given to diet. The high prices obtainable for fisher and marten pelts have encouraged efforts to raise these animals and a moderate amount of success has been attained in each case. The valuable chinchilla has recently been added to the animals raised in captivity on Canadian farms and the raising of nutria is also showing progress.

The Dominion Department of Agriculture conducts, at Summerside, P.E.I., an experimental fur farm for the study of matters affecting the health of fur-bearing animals, especially the silver fox, in captivity, and has, in addition, organized a service to assist in the marketing, both at home and abroad, of the pelts of Canadian fur bearers. Several of the Provincial Governments also have established branches that engage in experimental work and various other activities of value to the fur-farming industry.

Statistics of Fur Farming.—The number of fur farms in operation in Canada in 1941 was 8,440 compared with 9,164 in the preceding year and it is expected

that there will be a further decrease in 1942 due to the effects of the War. Although there were fewer farms in 1941, the value of fur-farm property at \$15,171,845 increased by \$826,459 or by 6 p.c. Ontario stood first among the provinces in value of fur-farm property with 20.5 p.c. of the total. The other provinces ranked as follows: Que., 19.4 p.c.; Alta., 16.6 p.c.; Man., 14.1 p.c.; Sask., 8.7 p.c.; P.E.I., 6.8 p.c.; B.C., 6.0 p.c.; N.B., 4.6 p.c.; N.S., 3.2 p.c.; and Yukon, 0.1 p.c.

The total revenue of the fur-farming industry in 1941 was \$5,582,339, 86 p.c. of which was received from the sale of pelts and the remainder from the sale of live animals. Silver and new-type fox pelts accounted for \$2,829,207, or 59 p.c. of the total pelt sales, and mink for \$1,888,189, or 39 p.c. The average value of silver-fox pelts was \$22.81 compared with \$17.92 in 1940, and of mink pelts \$10.62 compared with \$9.64. Live silver fox sold numbered 6,994 and were valued at \$327,845; mink numbered 12,018 valued at \$291,618; and new-type fox, including platinum, white-face, silver-blue, etc., numbered 826 valued at \$148,041. Compared with 1940, the total value of pelts sold showed a decrease of \$808,891, while the value of live animals sold increased by \$238,156.

The value of the animals on the farms at the end of 1941 was \$7,928,971, of which 55 p.c. was of silver and new-type fox and 40 p.c. of mink. The 98,054 silver and new-type fox on the farms was an increase over the preceding year of 2,025, and the 153,447 mink an increase of 20,833. The total number of fur-bearing animals on farms was 256,928 compared with 234,269 in 1940.

From information received direct from the fur farmers, it is estimated that 119,700 standard silver fox, 17,900 new-type fox and 198,300 mink will be pelted in the season 1943-44.



Export Trade in Furs.—For many years London and New York have been the chief markets for Canadian furs, but the present war has altered this situation and Canadian furs are now disposed of on the home market. Since 1920 Montreal has occupied a position as an international fur market and Winnipeg, Edmonton and Vancouver also operate auction sales.

The natural beauty of fine fur is not only well preserved but is enhanced by modern processing and manufacturing methods.

Courtesy, Manitoba Travel and Publicity Bureau

CHAPTER VI

Fisheries Production

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The Bay of Fundy, 8,000 square miles in extent, the Gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific Coast of the Dominion measures 7,180 miles in length. Inland lakes contain more than half of the fresh water on the planet; Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

Statistics of Production

Canada's list of food fishes embraces nearly 60 different kinds, chief among which are the salmon, the cod, the herring, the lobster, the whitefish, the halibut, the haddock, the pickerel and the trout. The total quantity of fish of all kinds taken by Canadian fishermen in 1942 was 12,062,763 cwt., for which fishermen received, at the point of landing, a total of \$41,734,723 compared with a catch of 11,988,652 cwt. with a landed value of \$36,046,019 in 1941.

Fisheries Production, by Provinces, 1914, 1941 and 1942

Province or Territory	Values of Production			Percentages of Total Values		
	1914	1941	1942	1914	1941	1942
	\$	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island.....	1,261,666	952,026	1,639,539	4·1	1·5	2·2
Nova Scotia.....	7,730,191	12,634,957	15,297,446	24·7	20·3	20·4
New Brunswick.....	4,940,083	6,484,831	7,088,302	15·8	10·4	9·4
Quebec.....	1,924,430	2,842,041	4,194,092	6·2	4·5	5·6
Ontario.....	2,755,291	3,518,402	4,135,205	8·8	5·7	5·5
Manitoba.....	849,422	3,233,115	3,577,616	2·7	5·2	4·8
Saskatchewan.....	132,017	414,492	585,782	0·4	0·7	0·8
Alberta.....	86,720	440,444	492,182	0·3	0·7	0·6
British Columbia.....	11,515,086	31,732,037	38,059,559	36·8	51·0	50·7
Yukon.....	69,725	6,652	3,056	0·2	—	—
Totals.....	31,264,631	62,258,997	75,072,779	100·0	100·0	100·0

The salmon fishery of British Columbia gives to that province first place in respect to value of production, the position that in earlier times belonged to Nova Scotia on account of her cod fishery. The herring fishery (on both the Atlantic and Pacific Coasts) is of rising importance and in British Columbia is now second only to salmon in value of output. Canned herring is the chief product of this fishery, but herring meal and oil are also of importance. On the Atlantic Coast, the cod, lobster and sardine fisheries are of main importance, while among the inland fishes, whitefish occupies first place.



Indian Harbour, a Fishing Village on St. Margaret's Bay, N.S.

Courtesy, Provincial Bureau of Information, Halifax

Fisheries Production, by Principal Kinds, 1941 and 1942

Kind of Fish	1941		1942	
	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
			cwt.	\$
Salmon.....	1,938,182	21,475,275	1,646,558	22,926,861
Herring.....	2,785,264	6,702,947	3,619,720	10,886,522
Cod.....	1,957,153	7,494,604	1,942,293	9,962,312
Lobsters.....	278,023	3,858,733	280,250	5,084,558
Whitefish.....	178,659	2,492,671	167,062	3,055,373
Halibut.....	149,525	2,425,561	121,757	2,455,970
Sardines.....	443,733 ¹	2,846,808	320,558 ¹	2,143,623
Pilchards.....	1,200,913	1,781,876	1,317,673	2,016,607
Haddock.....	287,766	1,410,227	262,060	1,734,410
Pickerel.....	126,304	1,253,244	128,041	1,440,774

¹ Bbl.

The fish-processing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches. Capital invested in fish-processing establishments, vessels, boats, nets, traps, etc., in 1942 amounted to \$62,629,585, and the number of persons employed in the fisheries was 77,101.

Production and Demand in 1943.—Various requirements of the United Nations continued to put great demand upon Canada's fisheries production in 1943. There was an increase in the need for frozen fish for Great Britain and a new demand for salted fish for Allied countries. At the same time, there were, of course, ordinary domestic requirements to be met which were increased by the continuing need for fish to take the place of certain other foods being sent in large quantities to the United Nations. On the other hand, the working force in the fishing industry was greatly reduced, though the peak rate of reduction had already been passed. However, aggregate production was well maintained during the year, although the final figures showing actual output are not yet available.

The new war demand for salted fish was for supplies needed in the British West Indies, Puerto Rico, the United States, the United Kingdom, and some Latin American areas. Canada became a participant in a plan devised by the Combined Food Board for the world rationing of salt fish and undertook to make available for the purposes of the scheme its entire 1943 exportable surplus of such fish, or approximately 27,000,000 lb., a quantity equivalent, in terms of raw material, to more

than 80,000,000 lb. of fresh fish. In the case of frozen fish the Dominion undertook to supply Great Britain, during 1943, with 9,000,000 lb. of frozen fillets of cod and pollock and frozen flounders, an increase of 100 p.c. as compared with the preceding year. However, the 1943 pack of canned salmon from the Pacific Coast, the Canadian fish product most needed by the British people, was substantially smaller than in either of the two preceding years, because the salmon run was less abundant. As a result, the canneries produced something less than 1,300,000 cases, as compared with 1,811,000 cases, roundly stated, in 1942 and the record pack of more than 2,248,000 cases in 1941. The great bulk of the 1943 output was delivered to the British authorities, under an agreement between Ottawa and London—the total pack with the exception of a limited quantity for parcels sent to Canadian prisoners of war by the Red Cross and for certain supply services, and 200,000 cases retained for domestic consumption.

Similarly, by far the greater part of the year's production of canned fresh herring, from both coasts, was made available to the United Kingdom. Expansion of herring canning to meet the needs of the United Nations has been one of the outstanding industrial developments of war-time Canada. In 1938, the last full year of peace, the pack of canned fresh herring was only about 80,000 cases and in 1942 the production exceeded 1,640,000 cases, although such large packs may not necessarily be produced year after year.

Seining for Herring.—Two boats divide the big "purse seine" nets between them, half on one boat, half on the other. When a school of herring is found, the boats separate, dropping the net as they go.

Courtesy, Toronto Star Newspaper Service





An Alberta Coal Mine.

CHAPTER VII

Mines and Minerals

Canada is endowed with a wide variety of minerals, and her mining industry has passed the five-hundred million dollar mark in the annual value of its production.

Metallics.—The most important metal in the peace-time economy is *gold* and the value it represents. For some years gold mining has been predominant and the export of gold was one of the most important factors in Canada's export trade.

At the beginning of the present war the gold mines were encouraged to maintain or increase their production, since gold was of great assistance in making purchases in foreign countries. As the War progressed, and the need of the Allied Nations for base metals increased, the production of gold became of less importance. When the United States placed gold mining in that country in a non-essential category and ordered closing of the mines, the influence was immediately felt in Canada. Canadian gold mines soon found it difficult to secure United States supplies and equipment, and further pressure was placed upon the industry by Selective Service regulation which put gold mining in the lowest category for labour supply.

Though gold may be important from the monetary and export angles, in time of war base metals and other minerals used in the manufacture of munitions are given first place. Fortunately, Canada's base-metal industry was well equipped and prepared for the great expansion which was required of it. While at first only a small part of this production was used in Canada, the amount has grown to a rate of almost 40 p.c. of total metal production.

It is a fact of great importance that, over a period of twenty years, or since the War of 1914-18, Canada has changed from an exporter of ores or semi-finished mine products to the position where smelting and refining operations are now completed within her own borders. Thus it was that, when war broke out and the British Empire was practically alone, Canada's base-metal mines stood out in importance. Immediately, the British Government contracted to purchase at the then prevailing prices all of Canada's copper, lead and zinc not needed in Canada. The only condition on which the price at which the contracts were made could be raised was higher cost of production caused by influences outside the producers' control. Plans were made to increase the output of the operating mines and then to locate, develop and bring to fruition all likely properties that, prior to the War, were having difficulty in producing at a profit. This might be considered the first stage relating Canadian mining industry to the War.

The rarer metals necessary to the manufacture of war machines were produced in Canada only in minor quantities, if at all, before the War. Small stocks were available but, as the sea lanes became narrower and shipping conditions more dangerous, it became increasingly evident that something had to be done to locate such minerals as were in short supply. This was the second stage of the program.

A Metals Controller was appointed to direct the production of the base metals into the war effort, to transfer the usual requirements of civilian consumption to war industry and, in conjunction with similar bodies at Washington and London, to do everything possible to develop the production of the more or less rare metals and to increase the supply of certain industrial minerals.



A Pot of Molten Magnesium.— Magnesium is a rare metal in its pure form, light and tough enough to make aeroplane parts, yet, as ribbon or powder, inflammable enough for incendiary bombs and flares.

Courtesy, National Film Board

As a result, a large *mercury* mine was established at Pinchi Lake in British Columbia, the output of which was sufficient for Canada's needs, with a surplus for export; two other properties were also brought into production. *Tungsten*, known to occur in association with gold, was recovered, where possible, from gold-mining operations, and the Emerald Mine in British Columbia was put into production. Although deposits of *molybdenum* were known to exist in Canada, very little success had been achieved in their development, and it was believed that the United States mines would be able to supply the war-time needs of this country. As the demand for molybdenum increased, it became evident that the most promising molybdenum deposits in Canada should be developed regardless of cost. A molybdenum deposit of major importance in northwestern Quebec is now in production, and authorities are hopeful that it will be able to compete in peace-time with other known deposits on this continent.

Magnesium, one of the lightest metals known, is in great demand for the construction of aeroplanes and parts of aeroplane engines. In addition, it has wide uses in powdered form for flares and incendiaries. No magnesium was being produced in Canada at the outbreak of War. Investigations at the National Research Council, Ottawa, resulted in the development of an all-Canadian process for the extraction of magnesium from dolomite rock; this has eventuated in the erection of a Government-owned plant for the production of magnesium which, operating at capacity, produces sufficient metal for domestic needs and permits the export of the balance to the United Kingdom or other Allied Nations.

Chromite was imported from different parts of Africa, Turkey and other places across the sea. Canada had chromite deposits in Quebec which, though low in grade, could be used if necessary. Plans were made to develop these properties and two mines are now in full operation.

The greater part of the *tin* resources of the world are in countries bordering the west side of the Pacific. When Japan overran this part of the globe, tin became a very strategic material. The tin content of alloys used in Canada was reduced where possible and all available sources of material were tapped. Tin was known to occur in the zinc-lead ores of the Sullivan Mine in British Columbia where the Consolidated Mining and Smelting Company had done considerable research on its recovery. Immediately plans were made to recover tin from the mill tailings which had been stock-piled, and from the ores as they were milled. Thus Canada contributed towards the supply of this metal.

Antimony was produced at Trail, B.C., from the Sullivan ores and no shortage of antimony was experienced. *Cobalt* metal plays an important part in certain alloys

used in the manufacture of munitions. Canada's supply of cobalt ore was running low and arrangements were made to bring material containing cobalt from Africa to be treated in this country. The Canadian plant formerly treating Ontario cobalt ores was transformed to treat this imported material, and the Canadian ores were stockpiled for use in an emergency.

The tremendous demand for steel created by the present world war has awakened a long dormant Canadian iron-mining industry, and the development of *iron ore* deposits in various parts of the Dominion is now taking place. This is particularly evident in northwestern Ontario, where important tonnages of beneficiated siderite ores are being produced at the New Helen Mine in the Michipicoten District, and in the same area the large deposits of the Josephine Mine are being

Coal Mining in Canada

Coal miners, since the outbreak of war, have increased substantially the per capita output of coal in Canada; to make sure that this coal output will be maintained and increased still further, ex-miners who had left for the Armed Forces or other occupations are being released in order that they may return to the mines.



Top: The heavy arm of a cutting machine is seen biting through the coal in a Cape Breton colliery. The ceiling is so low that men must work in a crouching position. *Bottom:* Loading the cars in a British Columbia mine.



rapidly developed. Farther to the west, and in the Rainy River District of the same Province, possibly the largest and most impressive base-metal mining operation in Canada is under way. This activity is centred at Steep Rock Lake where the flow of the Seine River has been diverted by an elaborate engineering project in order to expose for mining a very large deposit of high-grade hematite. Commercial shipments of ore from this mine are expected to commence in 1944. During 1943 iron ore was shipped to Sydney, N.S., from the Bathurst Mine located in New Brunswick. Field parties are engaged in investigating the large iron-ore bearing formations of Ungava and Labrador which promise to be of major importance in the post-war era to the economic life of Canada.

Non-Metallics.—Several of the more important non-metallics were, as a result of the War, in short supply. *Mica* came from Madagascar and India, and both of these countries were in danger of being overrun by the enemy, but just about this time one of the most important mica discoveries in years was made of muscovite mica in the vicinity of Mattawa, Ont., and the situation was immediately eased.

Fluorspar deposits were opened up with the financial assistance of the Government. Interest in *graphite* grew and the Black Donald Graphite Mine in Ontario, the only producer in Canada, was rejuvenated and is now an important producer. The situation with regard to graphite, a very strategic material, was eased when shipping conditions from Ceylon and Madagascar improved.

A *brucite* mine near Gracefield, Que., was opened up in 1941. Though *brucite* is a source of magnesium metal, its main use at present is in the manufacture of refractory bricks for lining smelting furnaces. Research on its recovery from the rock in which it occurs and in its use in refractories has achieved considerable success.

The result of this control and direction of mineral production and the change in the War outlook has eased the critical metal situation that existed a year ago. It may be said that the Canadian war effort in relation to Canada's mineral production has now reached the third stage. As an indication, it has been announced that no financial assistance will be given for the development of new tungsten and molybdenum properties. The situation is improved also with regard to the supply of the most common base metals.

Fuels.—The domestic situation in Canada with regard to fuel is one that causes grave concern. The manpower shortage and the greatly increased demand for *coal* for industrial and domestic use have brought about a critical shortage in coal supply. Canada is in a somewhat anomalous position with regard to coal. Large deposits exist in the eastern and western provinces, but no coal is produced in Ontario and



Tanks at Fort Norman where the Oil from the Norman Wells is Stored.—In the foreground are supplies including casing pipe for the wells, which has been unloaded from river barges.

Right: Inspecting a Section of the Norman Wells-Whitehorse Pipeline. This pipeline is more than 600 miles in length.

Courtesy, National Film Board

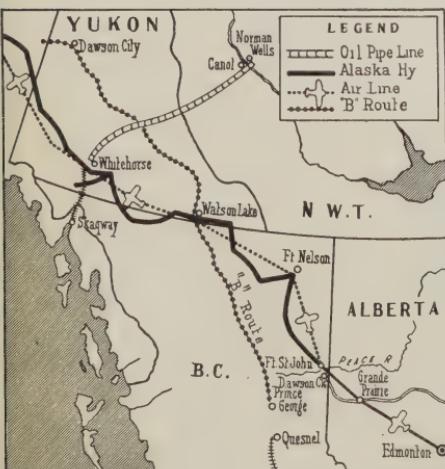
Quebec where the population is more dense, and these provinces, because of transportation difficulties, must look for most of their supply to the United States. Great efforts are being made to increase employment in the coal mines and consumers have been asked to conserve their supply wherever possible. Strenuous efforts are being made to increase production in Alberta. The construction of the Alaska Highway has increased the demand for oil products in the northern part of Canada, and the Fort Norman oil field in the Northwest Territories is being further developed.

Alberta is also the largest producer of *natural gas* in the Dominion; Ontario is next in importance with New Brunswick in third place. A small amount is also recovered from Saskatchewan.

Canada's mineral industry plays an important part in the industrial life of the nation. Large and progressive cities and towns have been built in northern areas and these create a market for the products of the farm and the highly industrialized sections in the older parts of the Dominion.

Review for 1943.—A preliminary estimate put Canada's mineral production in 1943 at \$524,426,850, a decrease of \$42,300,000 from the previous year. Production of base metals was greater but a lower output of gold was mainly responsible for

the over-all drop. Metals as a group totalled \$357,269,458, a decrease of 9 p.c. The combined production of copper, nickel, lead and zinc was valued at \$180,272,000 as compared with a 1942 value of \$167,426,611 and other strategic metals also registered an increase. But



Left: Highway, airway and pipeline routes now link together Canada's great northwest. More than 1,250 miles of the Alaska Highway lies within Canada. "B" route on this map is the proposed highway suggested by the B.C. Yukon-Alaska Highway Commission in 1941.

gold production with a value of \$140,512,000 was down nearly \$46,000,000, the lowest output since 1935, and reflected the decrease in labour at the gold mines and the difficulties in obtaining necessary process supplies during wartime. Production of gold from Ontario mines was less by 24 p.c., Quebec output decreased 16 p.c., and British Columbia output 49 p.c. Decreases were also registered in all other gold-producing provinces.

Mineral Production of Canada, by Provinces, 1941, 1942 and 1943

Province or Territory	1941		1942		1943 ¹	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$		\$		\$	
Nova Scotia.....	32,569,867	5.8	32,783,165	5.8	30,154,332	5.8
New Brunswick.....	3,690,375	0.7	3,609,158	0.6	3,703,275	0.7
Quebec.....	99,651,044	17.8	104,300,010	18.4	100,830,007	19.2
Ontario.....	267,435,727	47.7	259,114,946	45.7	229,760,526	43.8
Manitoba.....	16,689,867	3.0	14,345,046	2.5	13,149,775	2.5
Saskatchewan.....	15,020,555	2.7	20,578,749	3.6	26,531,213	5.0
Alberta.....	41,364,385	7.4	47,359,831	8.4	48,578,388	9.3
British Columbia.....	76,841,180	13.7	77,247,932	13.7	67,777,068	12.9
Yukon.....	3,117,992	0.5	3,453,568	0.6	1,659,251	0.3
Northwest Territories.....	3,860,298	0.7	3,976,267	0.7	2,283,015	0.5
Totals.....	560,241,290	100.0	566,768,672	100.0	524,426,850	100.0

¹Preliminary estimate.

Steps were taken to increase the labour force in coal mines and during the past half year the monthly output showed an upward trend. Production in 1943 at 17,878,778 short tons was 5.3 p.c. less than in 1942. Nova Scotia produced 6,086,733 tons; New Brunswick, 380,001 tons; Saskatchewan, 1,777,833 tons; Alberta, 7,631,803 tons; British Columbia, 2,001,409 tons; and Manitoba 999 tons. Crude petroleum at 9,958,000 bbl., exclusive of that produced in the Northwest Territories which is omitted for reasons of security, showed a decrease of 3 p.c. Alberta produces 99 p.c. of the Canadian total; the remainder comes from Ontario and New Brunswick wells. Natural gas production was estimated at 43,237,500 thousand cu. ft., or 5 p.c. less than in 1941; Alberta produces 80 p.c. of the total Canadian production.

The value of other non-metallics, including such important industrial minerals as asbestos, graphite, feldspar, salt, sodium sulphate and gypsum, was only slightly less than in 1942.

The structural materials group declined 12 p.c. This group includes cement,



Poling the Lead.—The final stage in the refining of lead at Trail, B.C. The lead, which comes from the electrolytic cells, is almost pure but remaining traces of impurity must still be removed. Some 300 tons of molten lead are oxidized by forcing air through the metal and thus removing final traces of arsenic, antimony and tin.

Courtesy, National Film Board

which is down by 20 p.c., indicating that construction for war purposes had passed its peak. Lime output was 6 p.c. higher, sand and gravel showed a slight increase, and stone production was down by 25 p.c.

Mineral Production of Canada 1942 and 1943

Item	1942		1943 ¹	
	Quantity	Value	Quantity	Value
		\$		\$
METALLICS				
Gold..... fine oz.	4,841,306	186,390,281	3,649,671	140,512,334
Silver..... fine oz.	20,695,101	8,726,296	17,230,939	7,797,689
Other precious metals.....	-	19,177,782	-	13,549,470
Copper, nickel, lead, zinc.....	-	167,426,611	-	180,271,613
Antimony, bismuth, cadmium, chromite, cobalt, magnesium, manganese, molybdenite, tin, tungsten.....	-	4,338,808	-	7,079,350
Miscellaneous—arsenic, iron ore, mercury, pitchblende products ² , selenium, tellurium, titanium ore	-	6,132,674	-	8,059,002
TOTALS, METALLICS.....	-	392,192,452	-	357,269,458
NON-METALLICS				
Fuels				
Coal..... ton	18,865,030	62,897,581	17,878,778	62,429,662
Natural gas..... M cu. ft.	45,697,359	13,301,655	43,237,500	11,699,894
Peat, for fuel..... ton	172	1,204	434	4,467
Petroleum, crude..... bbl.	10,364,796	15,968,851	9,958,000	16,149,000
TOTALS, FUELS.....	-	92,169,291	-	90,283,023
Other Non-Metallics				
Asbestos, fluorspar, graphite, magnesian-dolomite and brucite, mica, sulphur.....	-	26,365,058	-	25,872,555
Barytes..... ton	19,667	188,144	24,474	255,525
Diatomite..... ton	365	9,088	108	3,220
Feldspar..... ton	22,270	213,941	25,903	236,991
Nepheline syenite.....	-	246,893	-	213,197
Garnets (schist)..... ton	17	176	³	³
Grindstones..... ton	216	10,000	³	³
Gypsum..... ton	566,166	1,254,182	429,968	1,176,269
Iron oxides..... ton	9,304	151,653	7,879	126,195
Magnesium sulphate..... ton	1,140	38,760	-	-
Mineral waters..... Imp. gal.	157,085	74,505	156,000	74,000
Peat moss..... ton	53,506	1,069,372	63,635	1,352,183
Phosphate..... ton	1,264	17,431	1,435	19,460
Quartz..... ton	1,738,174	1,538,162	1,750,744	1,692,302
Salt..... ton	653,672	3,844,187	699,858	4,040,918
Silica brick..... M	4,273	263,006	13,208	272,463
Sodium carbonate..... ton	256	2,048	427	3,629
Sodium sulphate..... ton	131,258	1,079,692	87,297	854,152
Talc and soapstone.....	29,868	310,824	25,145	244,599
TOTALS, OTHER NON-METALLICS	-	36,677,122	-	36,437,658
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products (brick, tile, sewer pipe, etc.).....	-	7,081,723	-	6,391,621
Cement..... bbl.	9,126,041	14,365,237	7,299,210	11,619,092
Lime..... ton	884,830	6,530,839	938,143	6,750,093
Sand and gravel..... ton	26,349,907	9,005,414	26,425,694	9,063,533
Stone..... ton	7,978,066	8,746,594	5,962,952	6,610,372
TOTALS, CLAY PRODUCTS, ETC..	-	45,729,807	-	40,436,711
Grand Totals.....	-	566,768,672	-	524,426,850

¹Preliminary estimate.² Production value not included.³ Reports not received.

CHAPTER VIII

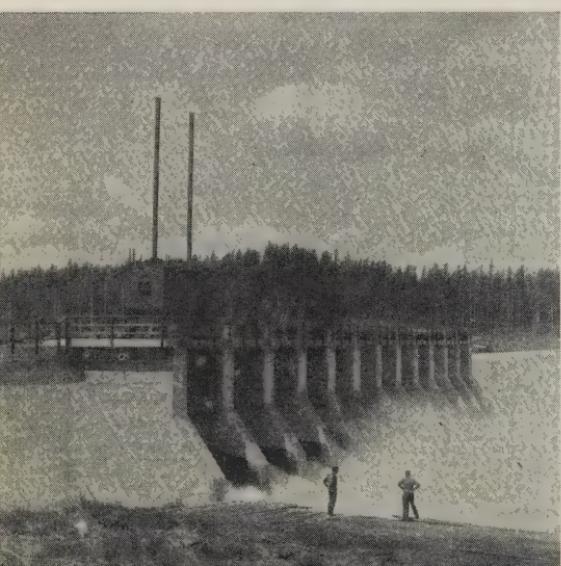
Water Powers

Canada, with only about one-half of one per cent of the world's population, has become the third greatest trading nation and the fourth greatest producer of war weapons among the United Nations. This outstanding position is due very largely to the possession of ample resources of water power which, in war as in peace, have been the mainspring of Canada's industrial success.

Available and Developed Water Power, by Provinces, Jan. 1, 1944

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installa- tion
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
	h.p.	h.p.	h.p.
Prince Edward Island.....	3,000	5,300	2,617
Nova Scotia.....	20,800	128,300	133,384
New Brunswick.....	68,600	169,100	133,347
Quebec.....	8,459,000	13,064,000	5,667,322
Ontario.....	5,330,000	6,940,000	2,673,443
Manitoba.....	3,309,000	5,344,500	422,825
Saskatchewan.....	542,000	1,082,000	90,835
Alberta.....	390,000	1,049,500	94,997
British Columbia.....	7,023,000	10,998,000	796,024
Yukon and Northwest Territories.....	294,000	731,000	19,719
Canada.....	25,439,400	39,511,700	10,034,513

The aluminum industry of Canada provides, perhaps, the most spectacular story of the use of water power. Canada now supplies 40 p.c. of the United Nations' requirements of this commodity; her production is six times greater than it was in 1939 and is also greater than total world production was in 1939. The use of water power in the production of copper, steel, zinc, nickel, lead and chemicals and



Main Dam at Waboose Rapids, Ogoki
Diversion Project of the Ontario
Hydro-Electric Power Commission.—
This diversion project is one of the
Commission's outstanding achieve-
ments and will result in the moving
of a great body of water from the
Hudson Bay watershed to the Great
Lakes.

*Courtesy, Hydro-Electric Power
Commission of Ontario*

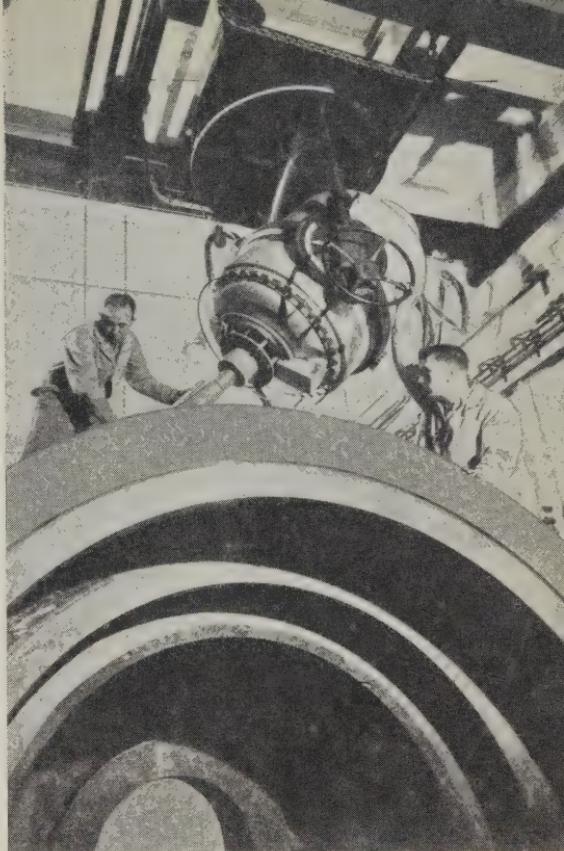
A 1,000,000-Volt X-Ray Unit being used in the detection of hidden flaws in a giant turbine casting. The X-ray, which has been applied in the field of medicine for many years, has only recently found its place in industry where it is used to probe the internal structure of castings, etc.

Courtesy, Canadian General Electric Co. Ltd.

in the conversion of these and many other materials into implements of warfare is almost equally impressive.

As it has proven sound commercial practice to install hydraulic power equipment averaging 30 p.c. in excess of the six-month flow power, it is estimated that Canada's presently recorded water powers provide for an installation of more than 51,350,000 h.p. That is, the present development represents only 19.54 p.c. of the possible development.

Provincial Distribution of Water Power.—The water powers of the Maritime Provinces, while small in comparison with the sites in the other provinces, constitute a valuable economic resource, the development of which is supplemented by power from abundant indigenous coal supplies. Quebec, with large resources of water power, has achieved a remarkable development; the present installation in the province represents more than 52 p.c. of the total for Canada. Almost 84 p.c. of this total installation is operated by six large central station organizations. The Province of Ontario has extensive water-power resources. The Hydro-Electric Power Commission of Ontario, province-wide in its field, operates plants aggregating more than 66 p.c. of the total hydraulic installation of the province and serves some 900 municipalities. A notable feature of electric distribution by the Commission is the operation of more than 20,000 miles of rural lines serving some 131,000 consumers. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest power development, 70 p.c. of the total hydraulic development of the three provinces being installed on the Winnipeg River to serve the city of Winnipeg and adjacent municipalities and more than 150 cities, towns and villages in southern Manitoba over the 1,825-mile transmission network of the Manitoba Power Commission. In the districts containing the least water power—southern portions of Alberta and Saskatchewan—there are large fuel resources. British Columbia, traversed by three



distinct mountain ranges, ranks second in available power resources and hydraulic development is exceeded in Quebec and Ontario only. The water powers of Yukon and Northwest Territories, while considerable, are so remote from markets as to limit their present commercial development to local mining uses.

Hydro-Electric Construction during 1943.—New hydro-electric installations during 1943 totalled 1,002,273 h.p. This total includes the capacity of three units transferred to newer stations and should be reduced to 810,973 h.p. net, bringing Canada's total hydraulic development as of Jan. 1, 1944, to 10,034,513 h.p.

The outstanding development of the year was the completion, in the Province of Quebec, of the great Shipshaw power station of the Aluminum Power Company where turbines of a total preliminary rating of 1,020,000 h.p. were installed with the final tests being expected to show a considerably higher rating. The installation of this plant is almost double that of the next largest Canadian development and, in conjunction with the other Saguenay River developments of the Aluminum Power Company and the Saguenay Power Company, provides power for the immense aluminum industry at Arvida.

Additional power for the Shawinigan Water and Power Company's system has been provided by the installation of a 40,000-h.p. unit at Rapide Blanc generating station and a 44,500-h.p. unit at La Tuque generating station, both on the St. Maurice River. Farther east the municipality of Tadoussac has completed a 300-h.p. development on the Moulin-à-Baude River.

The Hydro-Electric Power Commission of Ontario completed the initial installation—one unit of 65,000 h.p.—in its new DeCew Falls station, which draws water from the Welland Ship Canal. The Commission also completed the Ogoki River diversion structures by which the flow of that river was diverted from James Bay to the Lake Nipigon-St. Lawrence drainage. The additional flow from this and a previously completed diversion from Long Lake provides an additional power potential of 360,000 h.p. in the Great Lakes-St. Lawrence waterway system. Due to these diversions, the Commission has already been able to provide some 70,000 h.p. of additional power at Niagara for munitions production.

In British Columbia, the West Kootenay River Power and Light Company (Consolidated Mining and Smelting Company) proceeded with the construction of its new generating station at Brilliant on the Kootenay River. Two turbines of 34,000 h.p. each are now being installed, with provision for two similar units later. This is the company's fifth station on the Kootenay River and its full installation in conjunction with those of the other four plants will provide a total of 414,000 h.p. and result in the complete utilization of the power possibilities of the river.

The Nova Scotia Power Commission completed its development at Eel Lake on the Medway River by the installation of one unit of 1,290 h.p.

Central Electric Stations

Over 90 p.c. of all developed water power in Canada is developed by central electric stations and, although there is a large number of stations (294) that derive their power entirely from fuels and 43 hydraulic stations that also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

Electronics

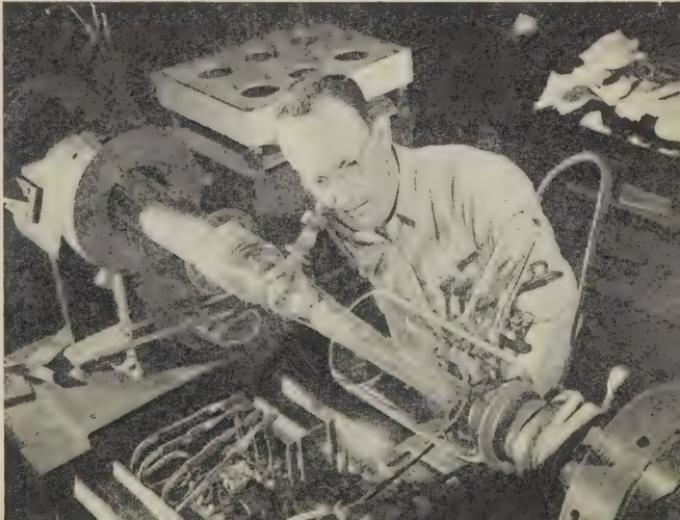
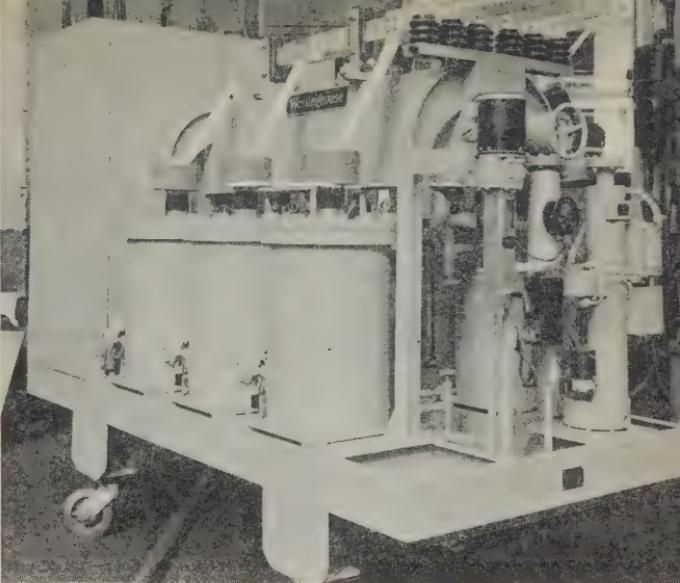
The work of Fleming and Lee de Forest in the early years of the present century developed the electronic tube in its application to radio reception to such a degree that small electrical impulses were transformed and amplified so that the wireless set, as we know it to-day, was developed.

The application of the electronic principles to perform a wide range of industrial functions has developed rapidly in recent years, stimulated by the requirements of war. One of the chief present uses of the electronic tube is to change alternating current to direct current, but electronic devices are used to operate high-speed relays and in delicate detection and measuring instruments. Electronic tubes can be utilized to measure or control sound, colour, speed, light, pressure or temperature. They can count, sort, calculate and locate defects in steel or stone (see illustration at p. 105).

Top: A 575-volt electronic ignitron rectifier, which is used to transform alternating to direct current for street-car service by the Toronto Transportation Commission. It occupies only 25 p.c. of the space used by the old form of rotary transformer; there are no moving parts and operation is almost noiseless.

Centre: An electron microscope, by which magnification far beyond the limits of optic microscopy is made possible. The first electron microscope on the North American continent was constructed in the Department of Physics of the University of Toronto.

Bottom: Filaments being inserted in a 50-kw radio transmitter tube.



CANADA 1944

The production of electricity by central electric stations amounted to 5,500,000,000 kwh. in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled, and by 1930 it amounted to 18,000,000,000 kwh. With continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from 1933 to 1943 there has been an almost continuous succession of increases each average month as shown in the table below. For 1943, production was at the rate of nearly 40,000,000,000 kwh.

The demands for primary power for war requirements have greatly increased the primary power production, partly by switching secondary power to primary power uses and partly by increases in total output. Primary power produced for use in Canada for September, 1943, was 84 p.c. greater than for September, 1939, and secondary power, which was used largely in electric boilers of the pulp and paper mills, was reduced by 67 p.c., and instead of constituting 25 p.c. of the total output of central electric stations it was only 5·4 p.c. This greatly increased production of electricity resulted from new developments, additional equipment in existing plants, and by increased diversion of water for power purposes at Niagara Falls.

The rated capacity of electric motors in manufacturing industries in Canada in 1941 was 81·6 p.c. of the total capacity of all power equipment in these industries, the increase from 61·3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57·3 p.c. in 1923 to 76·9 p.c. in 1941. In 1941, 85 p.c. of these electric motors in manufacturing industries and 88 p.c. in mining industries were driven by power produced in central stations. Mechanical power, particularly electric motors, has been increasing in manufacturing industries during the past decade much more rapidly than the number of employees.

Average Monthly Output of Central Electric Stations, 1927-43

Year	From Water	From Fuel	Total	Year	From Water	From Fuel	Total
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1927.....	1,193,481	18,944	1,212,425	1936.....	2,078,739	37,452	2,116,191
1928.....	1,340,292	21,192	1,361,484	1937.....	2,256,779	41,882	2,298,661
1929.....	1,441,203	27,622	1,468,825	1938.....	2,130,006	37,728	2,167,734
1930.....	1,463,330	25,230	1,488,560	1939.....	2,321,815	40,811	2,362,626
1931.....	1,339,907	26,071	1,365,978	1940.....	2,460,466	46,222	2,506,688
1932.....	1,296,360	25,845	1,322,205	1941.....	2,731,880	55,233	2,787,113
1933.....	1,436,486	26,150	1,462,636	1942.....	3,037,823	62,109	3,099,932
1934.....	1,733,810	29,484	1,763,294	1943 ¹	3,261,125	60,968	3,322,093
1935.....	1,917,958	32,410	1,950,368				

¹Nine-month average.

Electricity, principally hydro-electric energy, is displacing coal and oil to heat furnaces and ovens, and is doing enormous quantities of work in electrolytic refining of metals, production of fertilizers, metal plating, and so forth.

Investments in central electric stations for 1941 amounted to \$1,641,460,451, which was larger than for any manufacturing industry; revenues amounted to \$186,080,354 and 1,755,917 domestic customers were served, representing approximately 60 p.c. of all families in Canada, both urban and rural.

CHAPTER IX

Manufactures

The present century has witnessed the chief forward movement in Canadian manufactures, mainly as the result of three great influences: first, the opening up of the West, which greatly increased the demand for manufactured goods of all kinds and especially construction materials; secondly, the War of 1914-18 which left a permanent imprint upon the variety and efficiency of Canadian plants; and thirdly, the present War.

To-day, the manufacturing industries of Canada stand on the threshold of a new era in their development. The situation created as a result of Canada's strategic position as a source of food supply and armaments, has had far-reaching effects on the magnitude and diversification of Canadian manufacturing production and Canadian manufacturers have risen to the demands made upon them with marked success.

Statistics of Manufactures

In the paragraphs following the table on p. 110 a short review is given of some of the groups of industries that have felt the increased demands occasioned by the War.

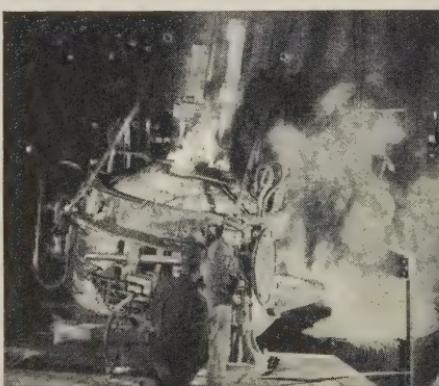
Historical Summary of Statistics of Manufactures, 1870-1941

Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
	No.	\$	No.	\$	\$	\$	\$
1870...	41,259	77,964,020	187,942	40,851,009	124,907,846	96,709,927	221,617,773
1880...	49,722	165,302,623	254,935	59,429,002	179,918,593	129,757,475	309,676,068
1890...	75,964	353,213,000	369,595	100,415,350	250,759,292	219,088,594	469,847,886
1900 ² ...	14,650	446,916,487	339,173	113,249,350	266,527,858	214,525,517	481,053,375
1910 ² ...	19,218	1,247,583,609	515,203	241,008,416	601,509,018	564,466,621	1,165,975,639
1920 ³ ...	22,157	2,914,518,693	591,753	711,080,430	2,083,579,571	1,609,168,808	3,692,748,379
1929...	22,216	4,004,892,009	666,531	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1933...	23,780	3,279,259,838	468,658	436,247,824	967,788,928	919,671,181	1,954,075,785
1934...	24,209	3,249,348,864	519,812	503,851,055	1,229,513,621	1,087,301,742	2,393,692,729
1935...	24,034	3,216,403,127	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936...	24,202	3,271,263,531	594,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937...	24,834	3,465,227,831	660,451	721,727,037	2,006,926,787	1,508,924,867	3,625,459,500
1938...	25,200	3,485,683,018	642,016	705,668,589	1,807,478,028	1,428,286,778	3,337,681,366
1939...	24,805	3,647,024,449	658,114	737,811,153	1,836,159,375	1,531,051,901	3,474,783,528
1940...	25,513	4,095,716,836	762,244	920,872,865	2,449,721,903	1,942,471,238	4,529,173,316
1941...	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,124

For footnotes see p. 110.

Workmen in a Canadian foundry pouring steel which later finds its way into ships, guns, tanks or bayonets.

Courtesy, Hydro-Electric Power Commission of Ontario



Historical Summary of Statistics of Manufacturers, 1870-1941—concluded

Province and Group	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
							\$
Province							
P.E.I....	213	3,106,369	1,105	680,883	3,229,433	1,347,990	4,649,476
N.S....	1,177	124,409,791	24,577	27,527,339	76,779,821	51,318,369	133,873,428
N.B....	791	97,952,799	19,600	21,718,407	59,234,107	47,296,960	111,433,726
Que....	8,711	1,700,527,405	327,591	393,819,671	961,162,209	815,086,832	1,841,088,523
Ont....	10,250	2,336,788,884	468,230	660,722,278	1,683,912,216	1,360,055,756	3,121,756,568
Man....	1,184	163,489,471	32,262	40,894,267	132,330,823	74,450,721	211,534,751
Sask....	945	42,158,738	8,546	9,979,974	65,836,308	28,172,441	96,020,975
Alta....	1,108	95,676,318	16,761	20,151,705	94,176,887	45,958,219	142,651,493
B.C....	1,905	340,609,179	62,447	89,256,478	219,755,738	181,232,637	412,957,807
Yukon& N.W.T.	9	785,012	59	111,641	129,477	199,863	341,377
Totals.	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,124
Purpose Group							
Producers materials	7,984	2,076,914,285	295,725	399,181,962	999,572,243	893,134,840	2,002,417,597
Food...	8,420	549,342,529	115,206	127,744,973	816,983,921	300,507,296	1,134,805,943
Industrial equipment..	2,324	877,509,129	158,669	232,294,504	520,044,553	521,882,705	1,066,702,761
Vehicles and vessels	370	436,853,387	117,492	188,325,103	388,382,775	317,741,324	714,510,718
Clothing	2,301	230,532,584	117,898	116,131,601	235,698,630	177,250,936	415,471,018
Drink and tobacco	688	221,539,178	26,472	33,036,981	96,986,623	101,091,731	201,126,763
Books and stationery	2,515	154,150,551	45,500	65,523,631	66,324,919	114,190,171	182,686,318
House furnishings and equipment..	827	120,765,916	35,583	42,614,722	71,511,798	77,189,733	150,988,355
Personal utilities	651	61,170,967	17,675	20,510,038	42,064,391	42,627,908	85,627,622
Miscellaneous	213	176,725,440	30,958	39,499,128	58,977,166	59,503,144	121,971,029

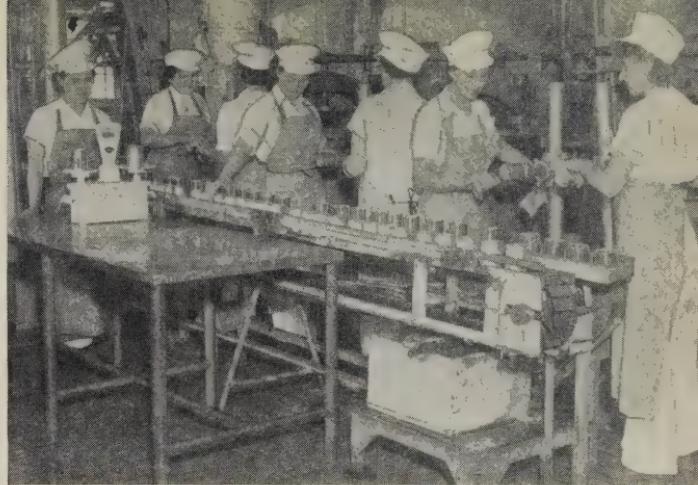
¹ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted. ² Includes all establishments employing five hands or over. ³ From 1920 to 1941 the figures include all establishments irrespective of the number of employees but exclude construction, and custom and repair work.

Food Industries.—Some leading industries, with gross values of production in 1941, were as follows: slaughtering and meat packing \$296,240,415; butter and cheese, \$180,223,633; flour and feed mills, \$144,171,637; bread and other bakery products, \$92,116,307; fruit and vegetable preparations, \$75,598,310; biscuits and confectionery, \$74,514,061; miscellaneous foods, \$69,452,785; sugar, \$62,402,709; fish-curing and packing, \$48,176,091; condensed milk, \$21,437,808; and stock and poultry foods, \$19,769,235. Each of these industries showed a substantial increase over 1939.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1942 its output was valued at \$369,047,175, an increase of 99 p.c. over 1939; it furnished employment to 17,397 persons who were paid \$26,695,879 in salaries and wages. About \$263,000,000 was paid out by packers for live stock. Of the 146 establishments in 1941, 42 contributed 91 p.c. of the total output,

Canning meat for shipment in carload lots to Canadians on Active Service.

Courtesy, Manitoba Travel and Publicity Bureau



while 7 of the largest plants had an average production of about \$19,000,000. The same is true of employment. Forty-six plants reported 92 p.c. of the total number of persons employed, while 7 of the largest plants averaged 1,003 employees each. During the war years this industry has been called upon to supply ever increasing quantities of products to Great Britain (see pp. 68 and 69).

Dairy Products.—Manufacturing statistics of dairy production are given in the chapter on Agriculture at pp. 80 and 81.

Canned Foods.—The development in the production of canned foods in Canada has shown remarkable expansion since the beginning of the twentieth century. In 1900 the total value did not exceed \$8,250,000 but by 1939 it had increased to \$69,792,697. The War, however, is bringing about many changes in the canning industry. Since the supply of tin has been cut off, it has been found necessary to allocate limited quantities to the canners to be used only where necessary. The canning of many products, formerly with large packs, has been prohibited and the packs of others strictly curtailed. Glass, plastics, waxed paper and cardboard containers are being substituted for tins so far as possible.

In spite of these unavoidable restrictions and other difficulties under which the canning industries have had to carry on, the value of the output in 1941 advanced 50 p.c. over the pre-war high mark attained in 1939.

Principal Foods Canned in Canada, 1940 and 1941

Product	1940		1941	
	Quantity	Value	Quantity	Value
		\$		\$
Fish..... lb.	132,124,047	17,873,376	190,073,678	26,829,659
Fruits..... doz. cans	5,221,419	6,740,876	4,817,305	7,501,161
Vegetables..... "	18,972,699	16,812,119	23,560,220	22,689,459
Meats..... lb.	9,123,105	1,818,757	16,415,193	3,813,181
Soups..... doz. cans	7,874,789	6,912,546	11,065,144	10,207,193
Other foods.....	—	9,828,268	—	14,416,090
Concentrated milk.....	—	14,478,543	—	19,570,999
Totals.....	—	74,464,485	—	165,027,742

Flour Milling.—The flour-milling industry has a tremendous capacity to produce whatever flour may be needed under present war conditions. The present maximum daily capacity of the mills is 88,125 bbl. per day of 24 hours, or an annual capacity

of over 32,000,000 bbl. The output of wheat flour during the 1942-43 crop year amounted to 23,549,707 bbl., an increase of 27 p.c. over the previous ten-year average. Substantial as this increase may be, the milling industry is capable of still greater effort, since the mills were operating at only about 75 p.c. of maximum capacity.

Textile Industries.—The need for clothing and equipment for Canada's rapidly expanding Navy, Army and Air Force throws a heavy burden upon the textile industries. These industries are, to a high degree, centralized in the Provinces of Quebec and Ontario. In 1941 the gross value of production was \$666,438,539, an increase of 70 p.c. over 1939, employment was given to 156,892 persons, and \$159,339,028 was paid out in salaries and wages. Of all females employed in the manufacturing industries, almost 40 p.c. were in the textile group.

The variety of individual industries included with those of the textile group is representative of practically all stages of manufacturing necessary to convert the various raw materials into products ready for purchase by the public. Yarn is spun, and fabrics and goods are woven and knitted. Cotton yarn and cloth led the group with a gross value of production amounting to \$128,421,012; this was an increase of 82 p.c. over 1939. Men's factory clothing came a close second with a gross production of \$116,508,885, an increase of 65 p.c. Other leading industries, in order named, were: women's clothing, hosiery and knitted goods, woollen cloth, and silk and artificial silk, which showed increases of 58 p.c., 34 p.c., 97 p.c., and 64 p.c., respectively.

Iron and Steel Industries.—Canada's steel production in 1943 will amount to about 3,100,000 tons or nearly double the best pre-war tonnage. At the beginning of 1940 the rated capacity of steel furnaces in the Dominion was 2,300,000 net tons, but new installations have raised this potential to 3,400,000 tons as at the end of September, 1943. Canada now is the fourth greatest steel producer among the United Nations, exceeded only by the United States, Russia and Great Britain.

Most notable new expansion has been in connection with alloy steels and steel plates. For alloy steels, the production capacity and output has been multiplied six times, making this country practically independent in providing alloy steels of the types used in guns, armour plate and machine tools. Prior to the War, the Dominion Foundries and Steel Limited at Hamilton, Ont., was the only maker of steel plates in Canada. In April, 1941, the new 112-inch mill of the Steel Company of Canada came into operation just in time to provide much needed plates for the shipbuilding program and for tanks, guns and carriers. In March, 1942, the Dominion Steel and Coal Corporation Limited at Sydney, N.S., reopened its plate mill, idle since the War of 1914-18. Output of steel plates is now nearly six times that of 1939.

The three major steel corporations that constitute the core of the industry in Canada are self-contained in that they process iron and steel from the ore through to the semi-finished and finished articles. The activities of the Steel Company of Canada Limited cover a wide range of products. The main plant at Hamilton, Ont., has 3 iron blast furnaces, 13 open-hearths, 1 electric furnace, and rolling mills for making billets, bars, wire rods, sheets, plates and light shapes. Its capacity, the largest in Canada, is about 1,100,000 net tons of ingots annually. In addition, it operates several works in Ontario and Quebec for the production of wire, fencing, nails, screws, bolts, nuts, forgings, pipe, horseshoes, etc. The Algoma Steel Corporation Limited has 4 blast furnaces, 12 open-hearths, and also rolling mills. Its capacity is about 720,000 tons of ingots yearly and its chief products are billets, rails and rail

fastenings, carbon and alloy merchant bars, tinplate, black sheets, structural steel and sheet piling. It is Canada's chief producer of heavy structural shapes which are made in all standard sizes and forms. The Dominion Steel and Coal Corporation Limited operates 4 blast furnaces and 16 steel furnaces with yearly ingot capacity of 750,000 tons. Its rolling mill makes billets, rails, rail fastenings, merchant bars, wire rods and plates and in other plants or plants of subsidiary companies it makes wire, fencing, nails and similar lines.

In addition to these larger concerns, there are 31 other steel makers which use electric or open-hearth furnaces to produce steel from pig-iron and scrap. In all, there are 122 steel furnaces in Canada, including 50 open-hearth units, 69 electric units and 3 converters.

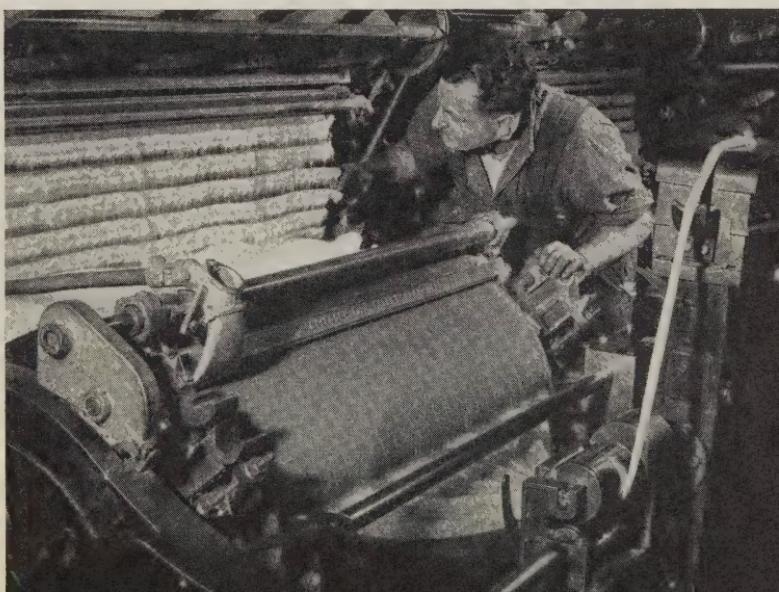
Canada has recently built 2 of the largest blast furnaces in the British Empire, and when the second of these is blown in the output of pig iron will be at the rate of about 2,500,000 tons a year, or about three times that in 1939. Actual output in 1943 will be about 2,000,000 net tons compared with 846,418 tons in 1939.

In the secondary industries there has been tremendous expansion. Three years ago shipbuilding was practically inactive; at present there are 60,000 workers in 21 major and 65 smaller yards which, to date, have launched more than 500 cargo, patrol and escort ships. The aircraft industry, which had fewer than 1,000 persons on the payroll before the War, now has 55,000 workers in main and sub-assembly plants, which now make about 80 'planes each week. The automobile industry has switched entirely to military vehicles, of which more than 500,000 have been produced to date. Guns and shells are being produced in large quantities, and the output of machine tools, cutting tools, gauges, jigs and fixtures has been stepped up enormously to meet the requirements of the war program.

Chemicals.—No phase of Canada's great industrial expansion has been more important or more spectacular than the explosives and chemicals program. Before the War the explosives industry in this country was occupied almost entirely on commercial requirements, and the chemicals industry was in no position to feed a large-scale munitions output. In October, 1939, the Chemicals and Explosives

Canadian Cotton Mills are producing material for camouflage cloth, web equipment, tire fabrics, powder bags, rifle slings, parachute strappings, uniforms, aircraft fabric, etc. The picture shows an employee engaged in the preparation stages of spinning the yarn. The cotton, after being thoroughly dusted, prepared and blended, makes its first appearance as a thread on the right end of the carding machine.

Courtesy, National Film Board

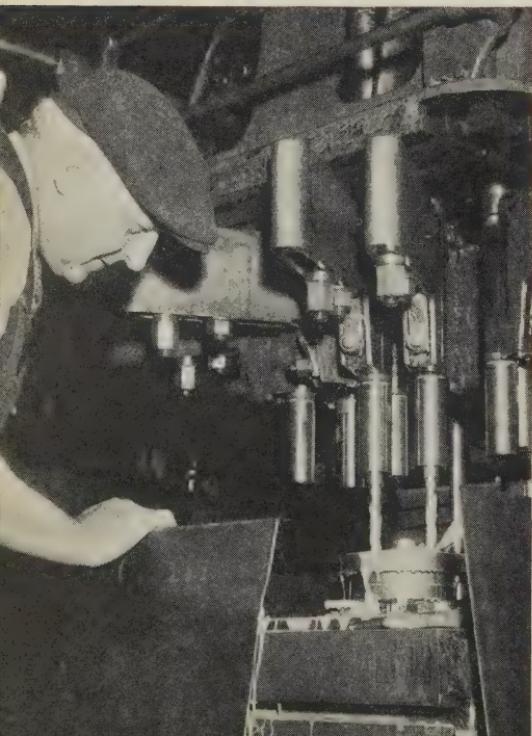


Branch of the Department of Munitions and Supply was set up to expand explosives production and to place the chemicals industry on a parallel course of development. Since that time in every part of the country great plants have sprung up. Capital expenditures for new factories in this field have amounted to more than \$125,000,000, and further expansion is currently underway by the addition of several new plants which, when completed, will make 40 projects in all. Now in operation are some 34 units of which 18 are classed as major undertakings. Three of these are making explosives, 3 are mammoth shell-filling plants, 2 are large fuse-filling undertakings and the others make chemicals of various kinds, some new to Canadian industry. Of the 13 smaller projects, 8 are making chemicals, 1 makes fuse powder and 4 are making or filling smoke bombs. Three of the new units are for large-scale alkylation of petroleum fractions for high-octane aviation gasoline. Over 50,000 employees are working in these establishments. Production of special war chemicals and explosives, including the cost of shell-filling but excluding shell components, has increased from \$2,000,000 in 1940 to \$50,000,000 in 1941 and \$120,000,000 in 1942, according to figures released by the Wartime Information Board.

In 1940 Canada made only 3 types of small arms ammunition to a value of \$4,500,000. This has been increased to 20 types, the value of which was \$23,000,000 for the first four months of 1943. About 30,000 workers are employed in small arms arsenals.

With war production at such high levels, it is not surprising to note an increase of 55 p.c. in the value of production for the chemicals and allied products group of industries in 1942 as compared with 1941. Output in the former year totalled \$471,000,000 as against \$304,000,000 in the latter. The bulk of the increase was, of course, in special chemicals and explosives, but most other lines showed substantial gains also. Percentage gains by the principal industrial groups were as follows: coal tar distillation, 32; heavy chemicals, 24; compressed gases, 27; fertilizers, 32; medicinals, 15; paints, 13; soaps, 14; toilet preparations, 16; inks, 0·5; adhesives, 23; polishes, 13; and miscellaneous, 130. There was a decline of 6 p.c. in the wood distillation industry.

Altogether there were 869 establishments in operation, represent-



A Multiple Drill in a Shipyard Machine Shop.

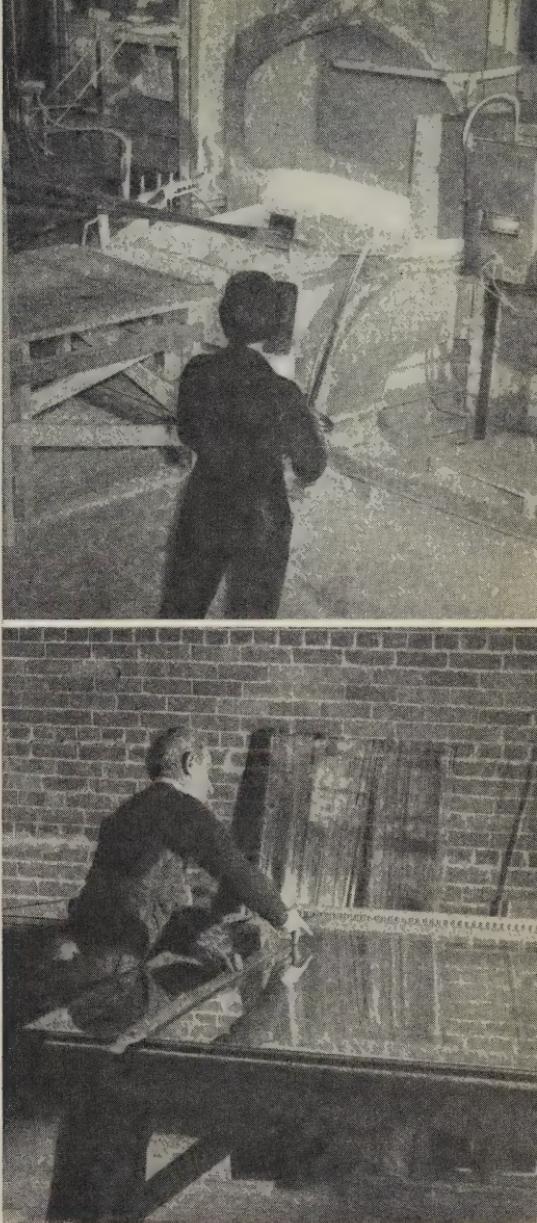
Courtesy, Hydro-Electric Power Commission of Ontario

Canada's New Sheet Glass Industry

War-time conditions, which cut off Canada's main sources of supply of sheet glass, have created an entirely new, thriving industry during the past year; to-day 60 p.c. of Canada's requirements are manufactured near Montreal.

Top: Raw material being pushed into the furnace and spread out evenly. The blue glass shield over the face of the operator enables him to look into the glowing furnace. *Bottom:* An expert cutting large sheets into window panes of various sizes.

*Courtesy, Toronto Star
Newspaper Service*

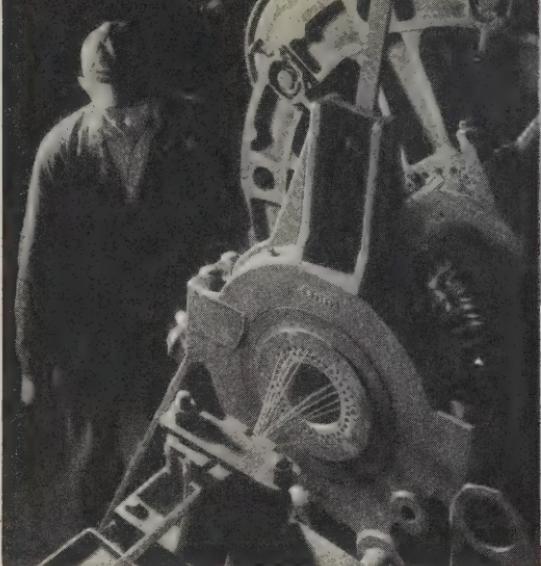


ing an investment of \$410,000,000 and giving employment to a monthly average of 80,000 workers during the year. These firms paid out \$115,000,000 for salaries and wages, \$209,000,000 for materials for processing and \$9,000,000 for fuel and electricity. The increase in capital compared with 1941 was 14 p.c.; in employment, 48 p.c.; in salaries and wages, 52 p.c.; and in cost of materials, 56 p.c.

Synthetic Rubber.—One year after Japan's attack on Pearl Harbour, rubber supplies were so low and civilian curtailments so severe, that every ounce consumed was going into essential manufacture, and it was no longer possible to distinguish between war and necessary civilian requirements. By the end of 1942, only 10 p.c.

The Aluminum Industry.—*Left:* Manufacturing aluminum cable; practically all the high-tension electrical transmission lines in Canada are made of this cable. *Centre:* An extrusion press making an aluminum section for an aeroplane wing. *Right:* Forging an aluminum aircraft propeller.

*Courtesy, Aluminum Co.
of Canada Ltd.*



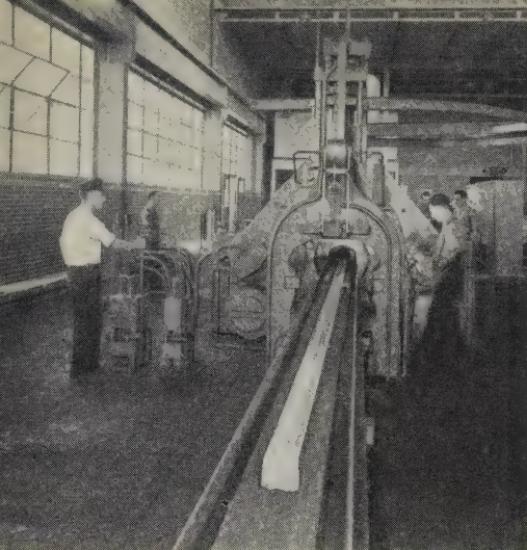
of the necessary meagre consumption was being supplied by continuing imports from Ceylon, South America, Central America and Africa. The balance of the requirements was being drawn from stockpiles gathered before December, 1941, and closely conserved by the United Nations since then.

As a result of the measures adopted by the Rubber Control, consumption of rubber for civilian purposes has been reduced to a mere 10 p.c. of what it was before the War. Out of this 10 p.c., tires have been provided for essential vehicles, but since Pearl Harbour no tires have been made, or will be made, for the non-essential car. Much of the saving of the rubber supply has been achieved by the use of substitutes and reclaim in the manufacture of hundreds of essential articles, including military tires and other war supplies. This progressive reduction in the use of rubber is still going forward. Month after month technical experts are devising new formulae for substitutions and as soon as these have been tested their adoption is made compulsory. Early in 1943 the manufacture of some war-grade tires from entirely reclaim material was begun. These tires are being released under rationing regulations for use on essential vehicles only.

As a result of the restrictions and substitutions, it appears possible that conversion from crude to synthetic may be achieved without any unfavourable effect on the war effort. Construction of the giant Government-owned synthetic rubber plant near Sarnia, Ont., is progressing rapidly and several of the vital units are nearing completion. When operating at capacity, the plant will have an output of 34,000 tons of buna-S and 7,000 tons of butyl rubber per year. It must be emphasized that this production of 41,000 tons of synthetic rubber has been earmarked. It will be used for direct war purposes only and for such other essential purposes as require crude rubber. It will provide no relief for the shortage experienced by the ordinary civilian.

Leading Individual Industries and Manufactures in Leading Cities

The incidence of the depression between 1930 and 1936 resulted in a rearrangement in the ranking of many industries. The suspension of capital expenditures



greatly reduced the output of such industries as sawmills, electrical equipment, automobiles, primary iron and steel, etc., but under the impetus of war production these industries, which are engaged in producing the equipment needed by the Armed Forces, have again advanced to high positions.

Principal Statistics of Fifteen Leading Industries, 1941

Industry	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
						\$
Non-ferrous metal smelting and refining	14	309,963,342	16,014	27,482,689	232,814,167	379,322,270
Pulp and paper.....	106	678,937,841	37,154	63,677,818	125,437,012	334,428,875
Slaughtering and meat packing.....	146	93,740,090	16,260	23,254,484	253,579,825	296,240,415
Automobiles.....	10	100,507,806	22,401	44,783,064	201,124,930	279,958,339
Butter and cheese.....	2,427	68,466,579	18,922	19,790,679	135,610,642	180,223,633
Electrical apparatus and supplies.....	211	128,317,208	33,086	47,210,886	77,466,516	177,903,626
Primary iron and steel	60	168,750,344	23,735	45,037,095	78,824,366	164,566,392
Sawmills.....	4,655	100,982,006	45,104	41,465,433	84,435,483	163,412,292
Petroleum products..	49	82,475,508	5,406	10,326,846	125,982,237	156,635,495
Flour and feed mills..	1,129	59,941,631	6,528	7,898,329	115,939,001	144,171,637
Cotton yarn and cloth	39	93,362,427	26,375	27,178,142	69,284,679	128,421,012
Automobile supplies..	102	61,183,370	16,138	25,764,272	73,307,685	124,386,867
Machinery.....	247	110,809,396	23,376	37,676,055	44,617,850	124,159,341
Rubber goods, (including footwear)	56	71,985,540	17,191	22,792,376	59,340,321	119,137,776
Railway rolling-stock.	34	113,881,540	28,126	46,126,832	63,310,071	118,080,141
Totals, Fifteen Leading Industries						
1941.....	9,285	2,243,304,628	335,816	490,465,000	1,741,074,785	2,891,048,111
1940.....	9,493	1,962,038,556	295,496	381,923,595	1,323,519,231	2,247,821,322
Grand Totals, All Industries						
1941.....	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	6,076,308,124
1940.....	25,513	4,095,716,836	762,244	920,872,865	2,449,721,903	4,529,173,316
Percentages of Fifteen Leading Industries to all Industries, 1941.						
	35.3	45.7	34.9	38.8	52.8	47.6

CANADA 1944

Cities of Canada with a Manufacturing Production of Over Twenty-Five Million Dollars in 1941

NOTE.—Arvida, Que., and Trail, B.C., each had a gross production of over \$25,000,000 in 1941, but statistics for these places cannot be published because there are less than three concerns operating in these cities.

City	Estab- lishments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Value of Products
	No.	\$	No.	\$	\$	\$
Montreal.....	2,669	556,538,023	147,917	187,239,445	444,557,884	803,685,931
Toronto.....	3,045	554,317,600	133,099	184,267,132	391,328,916	756,923,939
Windsor.....	223	138,929,934	29,486	57,653,986	175,847,231	289,027,790
Hamilton.....	491	255,862,917	45,421	72,845,604	136,403,197	283,670,019
Vancouver.....	864	115,960,608	25,223	34,132,996	90,720,812	162,982,858
Winnipeg.....	677	105,406,381	23,831	30,169,726	73,427,543	127,913,351
Oshawa.....	47	34,919,789	9,319	15,283,971	78,364,118	108,756,736
Montreal East.....	11	51,887,596	3,117	5,073,043	76,083,857	93,346,346
Kitchener.....	151	42,060,163	12,261	15,059,833	41,047,253	73,818,892
Shawinigan Falls.....	36	113,057,252	6,499	9,638,016	25,989,607	69,015,639
London.....	234	45,757,598	12,016	15,641,963	34,431,649	68,565,946
New Toronto.....	28	46,343,023	5,470	9,660,811	38,828,932	65,683,663
St. Catharines.....	87	40,821,862	9,463	14,017,171	38,478,232	64,747,804
Welland.....	51	49,343,108	7,724	11,777,347	31,547,973	62,671,436
Quebec.....	307	82,674,306	16,742	19,385,584	27,249,540	61,396,297
Edmonton.....	198	23,583,365	5,518	7,301,021	37,778,295	52,114,637
Calgary.....	207	40,492,678	5,239	7,291,833	32,582,536	49,869,493
Brantford.....	111	40,431,382	10,429	13,339,504	22,356,167	49,621,578
Peterborough.....	75	27,349,729	7,062	9,724,524	30,837,808	48,238,602
Niagara Falls.....	58	42,219,399	6,353	9,405,815	15,990,316	45,040,066
Sarnia.....	44	22,873,024	3,826	6,372,703	31,482,452	44,752,711
Sault Ste. Marie.....	49	58,625,543	5,574	9,486,497	20,892,289	44,056,386
Three Rivers.....	58	94,650,777	6,623	8,534,950	18,082,974	43,866,962
Ottawa.....	203	37,702,926	9,974	13,823,792	18,772,117	43,359,820
Lachine.....	34	32,635,748	5,532	10,371,857	15,245,978	40,000,595
Leaside.....	39	40,738,415	5,846	8,521,147	19,700,458	39,500,930
St. Boniface.....	47	13,134,345	2,246	3,154,575	30,825,874	38,753,448
Sherbrooke.....	74	27,006,202	7,544	8,278,081	16,652,156	35,943,105
Fort William.....	41	35,362,807	6,602	8,850,322	9,195,541	32,942,553
Saint John.....	123	21,316,260	4,809	5,899,099	18,749,941	31,588,775
Sydney.....	35	34,622,909	3,014	5,180,376	16,130,994	30,606,032
Guelph.....	90	17,405,639	6,109	7,072,329	15,031,019	29,986,611
Cornwall.....	44	33,977,880	5,279	6,795,884	9,958,303	28,120,891
Halifax.....	105	20,035,169	5,474	7,093,181	11,947,672	26,933,018
Regina.....	106	11,611,660	2,269	3,272,297	17,023,588	25,938,113

Conditions During the Years 1938-43

A good all-round barometer of industrial activity is afforded by the indexes of employment maintained from month to month in the Dominion Bureau of Statistics. These are based on returns received from establishments having 15 or more employees and include the great majority of employees.

Monthly Indexes of Employment in Manufactures, 1938-43

(1926 = 100)

Month	1938	1939	1940	1941	1942	1943	Month	1938	1939	1940	1941	1942	1943
Jan. 1.....	108.6	104.3	118.2	142.5	187.1	219.6	July 1.....	111.8	111.3	130.3	172.4	209.5	226.5
Feb. 1.....	110.3	106.0	120.5	147.4	191.2	222.1	Aug. 1.....	110.0	112.8	134.4	176.8	212.4	227.7
Mar. 1.....	110.5	107.0	122.6	150.8	195.7	223.4	Sept. 1.....	113.8	115.3	138.4	181.4	215.6	229.9
Apr. 1.....	110.8	107.1	123.4	158.2	199.4	224.1	Oct. 1.....	112.5	119.7	143.8	184.9	218.3	231.3
May 1.....	110.6	108.4	125.7	162.3	202.3	222.9	Nov. 1.....	110.9	122.1	144.6	187.5	218.6	230.8
June 1.....	112.3	111.4	129.2	168.0	205.9	224.1	Dec. 1.....	110.1	122.2	144.7	188.4	221.7	....

CHAPTER X

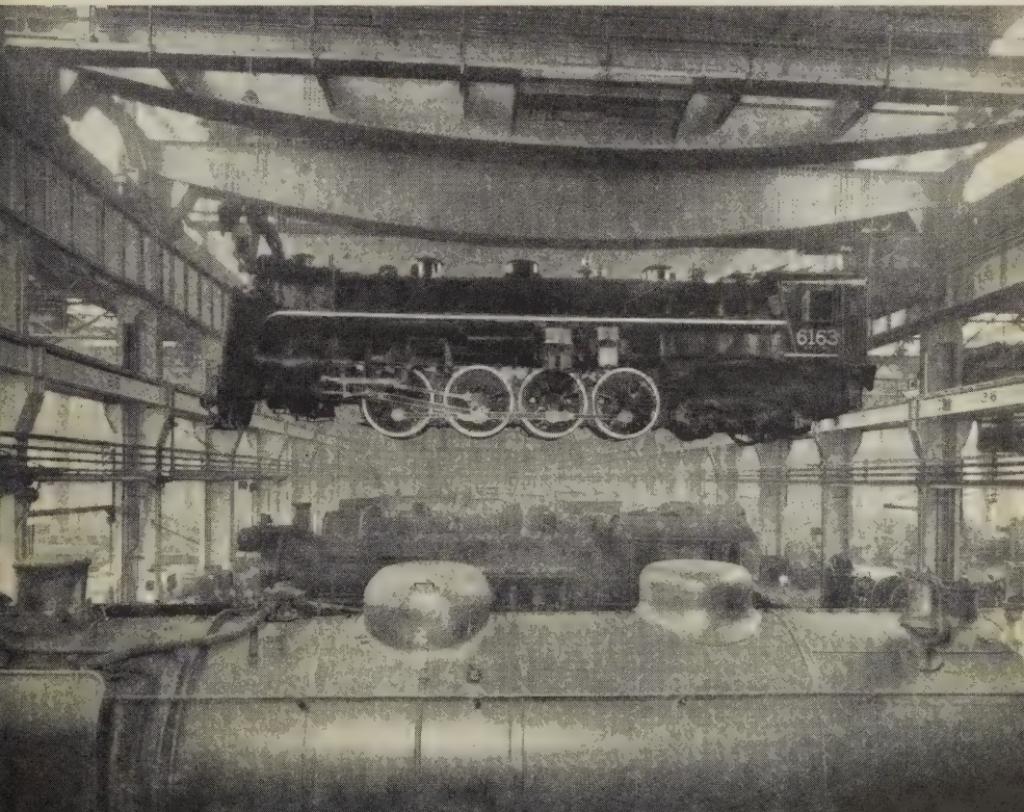
Transportation—Communications

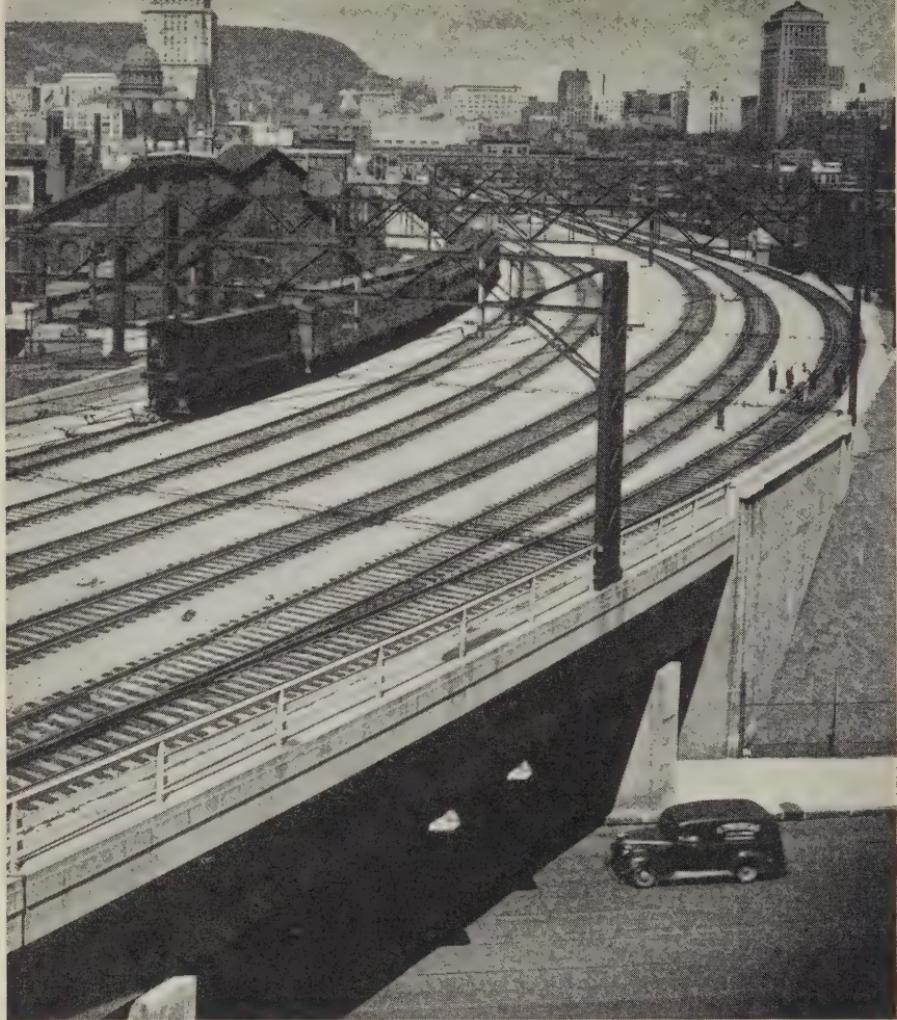
Steam Railways.—Over half of the railway mileage in Canada is owned and operated by the Dominion and Provincial Governments and the remainder by incorporated companies. The mileage of railways publicly operated as at Dec. 31, 1942, was as follows: Dominion, 22,586 miles; provincial, 922 miles; municipal, 92 miles; total 23,600 miles. Incorporated companies operated 18,739 miles.

The importance of adequate and efficient transportation service in war-time is too obvious to require emphasis. With restrictions on tires and gasoline, much of the traffic formerly carried by the motor-vehicle has been transferred to the railways, especially passenger traffic, and the increase in total traffic has been enormous. The tons of freight carried during the first seven months of 1943 increased by 116 p.c. over the same period in 1939, but because of longer hauls the ton miles increased by 153 p.c. Passengers carried increased by 171 p.c., and here also the longer journeys increased the passenger miles by 257 p.c. At the same time the amount of coal used by the railways almost doubled and the use of other supplies, of course,

Overhauling Locomotives in a Railway Motive Power Shop.—Locomotives that have run 100,000 miles or more are quickly overhauled and put back into service to speed up the war effort.

Courtesy, Canadian National Railways





Looking North along the Overhead Viaduct Leading to the New Canadian National Central Station in Montreal.

Courtesy, Canadian National Railways

showed corresponding increases. The manner in which this greatly increased traffic has been handled is remarkable and it has been accomplished in spite of the enlistment of a great number of regular railway employees in the Armed Forces and an increase in the number of employees of only 33 p.c.

During the War of 1914-18 railway traffic increased 41 p.c. in ton miles and 28 p.c. in passenger miles, while the number of employees decreased 10 p.c. Both the railways and the Government profited by the mistakes made during that War and in November, 1939, a Controller of Transport was appointed to control railway traffic by prohibiting freight from being shipped unless provision were made for prompt unloading, by facilitating the heavier loading of cars, and by restricting passenger travel, etc.

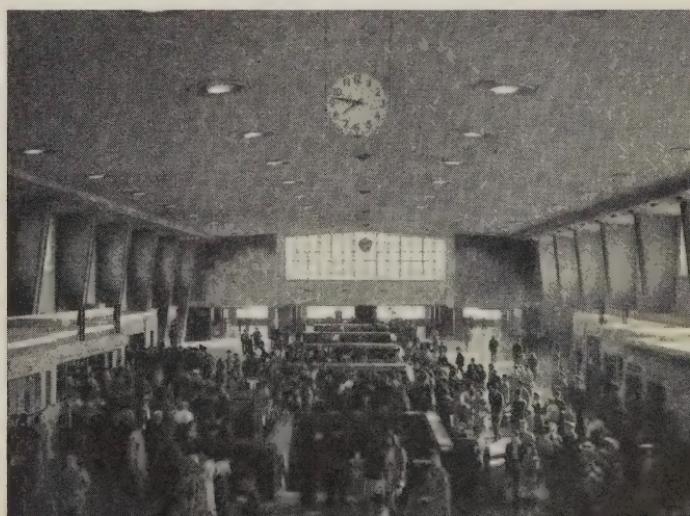
Railway Statistics, by Months, 1941-43

Month	Railway Gross Operating Revenues			Total Revenue Freight Loadings		
	1941	1942	1943	1941	1942	1943
	\$ '000	\$ '000	\$ '000	tons '000	tons '000	tons '000
January.....	36,113	45,422	50,679	5,936	6,845	6,517
February.....	34,620	44,044	53,025	5,547	6,571	7,110
March.....	40,613	50,858	62,811	6,317	7,287	8,305
April.....	41,887	50,597	65,338	6,404	7,391	8,097
May.....	46,595	53,036	64,366	7,722	7,722	8,121
June.....	44,817	55,247	66,682	7,367	7,924	8,486
July.....	45,442	57,529	69,727	7,502	8,090	8,583
August.....	46,524	58,881	69,815	7,704	7,777	8,995
September.....	47,215	58,590	66,620	7,717	7,692	8,941
October.....	51,239	61,281	.....	8,443	8,749	-
November.....	48,219	56,926	.....	8,110	8,248	-
December.....	50,050	63,593	.....	7,347	7,567	-

Canadian Railways and the War.—Transportation of freight and passengers by Canadian railways is being maintained at a high standard of efficiency and is making a vital contribution to the country's war effort. Prior to the outbreak of hostilities, track, motive power and rolling-stock were maintained in good order and were in condition to meet the constantly increasing volume of traffic imposed by the War.

The railways have kept pace with the expansion of Canada's war industries producing munitions, armaments and other war supplies in ever increasing quantities, and are handling more than double the volume of freight carried in the peak movement during the War of 1914-18. The volume of freight moved during the first eight months of 1943 was 116 p.c. greater than in the corresponding period of 1939—the period immediately preceding the outbreak of War. The revenue ton-mile shows an increase of 150 p.c. over this period as the increased volume of freight is carried a much longer distance than in pre-war days.

Passenger traffic also has increased correspondingly, reflecting the extensive movement of the Armed Forces, the migration of war workers to the industrial centres and the generally increased tempo of business in the Dominion. Passengers carried in the first eight months of 1943 numbered 36,955,896, an increase of 175 p.c. over the corresponding period of 1939. The passenger revenue mile comparison showed an increase of 259 p.c.



The Concourse of the New Canadian National Central Station, Montreal.

Courtesy, Canadian National Railways

While the railway companies were equipped with rolling-stock sufficient to meet the country's peace-time requirements, an acute shortage of locomotives and freight cars was threatened by the ever increasing requirements under war-time conditions. The Canadian Government, through the Department of Transport, has therefore, since 1939, placed orders for sufficient rolling-stock and equipment to meet possible shortages. To November, 1943, 92 locomotives of the newest type and design, and 8,115 freight and passenger cars have been acquired on the Department's orders and delivered to the Canadian National and Canadian Pacific Railways on a hire-purchase basis. In addition, outdated equipment has been rehabilitated and placed into service and luxury-type equipment has been remodelled to meet existing war requirements.

The new locomotives provided for war work operate on new methods of steam supply with corresponding increase in power. Modern locomotives are capable of hauling loads of 6,000 or more gross tons or double that of the average freight train load during 1914-18. The speed of locomotives has been increased by 60 p.c., while the consumption of coal per ton of freight hauled has been greatly reduced in the past quarter-century.

War services have imposed numerous tasks on the railways and have required the development of special units of equipment. These include commissary kitchen cars for feeding troops in movement on trains. For military parties travelling in smaller numbers, special dining cars equipped with long tables accommodating 54 at one sitting are provided. Cafe cars capable of seating 40 passengers at one time have been developed to speed up dining-car service on crowded trains.

Canadian railways are doing much more than looking after the transportation of passengers and freight, the carrying of messages, and the operation of hotels, etc. They have assisted industries in locating and establishing new plants; they are building guns, gun carriages, tanks, ships and secret devices and their own steamships are on active service either with the Merchant Navy or as auxiliary cruisers with the Royal Navy. One Canadian vessel, the SS *Lady Nelson*, has been converted into a hospital ship.

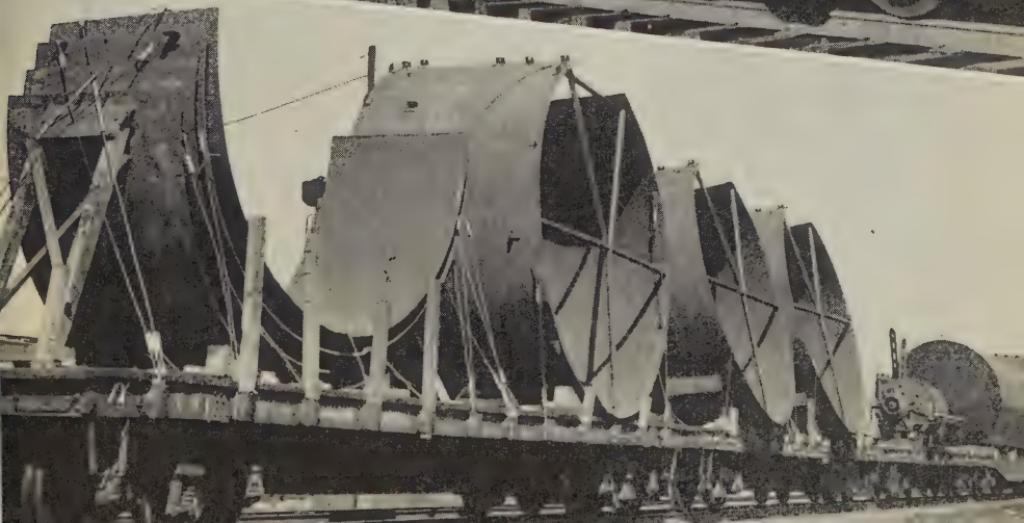
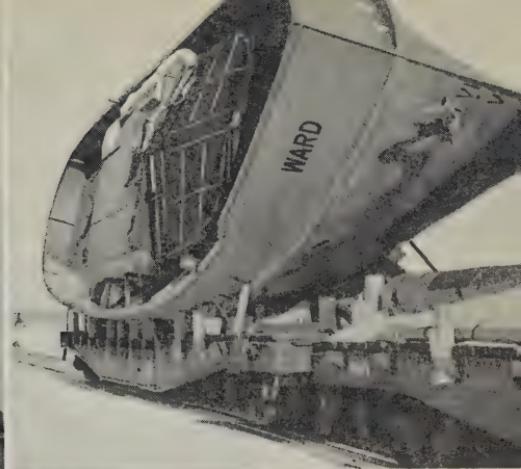
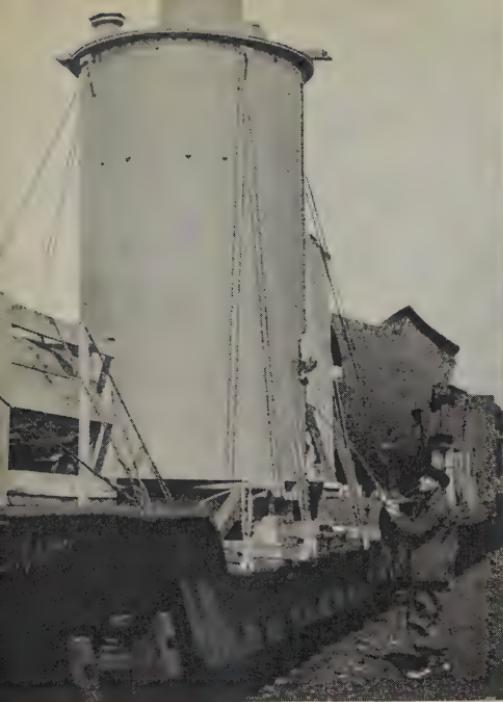
Electric Railways.—Electric railways continue to be replaced by motor-buses except in the larger cities, and three systems have inaugurated trackless buses, namely: Edmonton, Winnipeg and Montreal. In the large cities and centres where war industries are located, the local passenger traffic has increased to unprecedented proportions. New equipment has been almost impossible to secure and the peak loads in the mornings and especially in the evenings have been spread somewhat by staggering the working hours of industries, stores and office staffs.

In Montreal the number of passengers carried increased in 1942 over 1939 by 110,000,000 or 53 p.c.; in Toronto by 89,000,000 or 56 p.c.; in Halifax by 163 p.c.; in Kitchener, Niagara, St. Catharines and Toronto by 158 p.c.; in Fort William by 156 p.c.; in Lévis by 115 p.c.; and in Ottawa by 99 p.c.

A Transit Controller was appointed by the Dominion Government to control local traffic and motor-bus traffic. Under his instructions, equipment has been transferred from one city to another, car stops have been eliminated, working hours staggered and bus trips cancelled or reduced in an effort to improve traffic conditions.

Freight traffic men on the steam railways have to solve transport problems daily which tax all their ingenuity. The pictures show how a few of these difficulties have been met in transporting war equipment from plants far inland to their destinations.

Courtesy, Canadian National Railways





A Modern Snow Plough—
The problems created by Canadian winters are immense, and the necessity of keeping highways and airports open throughout the year calls for the large-scale use of such equipment.

Courtesy, Niagara Screens and Machines Limited

Roads and Highways.—Construction of roads suitable for motor traffic has been one of the principal items of provincial expenditure during the past twenty years. The Dominion Government has built roads in National Parks and has granted subsidies to the provinces, first in 1920 and again as an unemployment relief measure in 1930-39, but has not constructed any rural roads outside of Dominion lands.

The mileage at the end of 1942 was 122,689 miles of surfaced roads, and 441,849 miles of earth roads. Of the surfaced roads, 106,389 miles were gravel or crushed stone; 13,758 bituminous surfaces; 2,496 portland cement concrete.

The expenditures for 1942 amounted to \$62,839,937, including \$26,133,751 for construction of roads, \$1,734,252 for construction of bridges, \$29,503,836 for maintenance of roads, \$3,206,840 for maintenance of bridges, \$8,190 for footpaths and sidewalks, and the remainder for administration and general expenses.

The Alaska Highway.—The Alaska Highway, a 1,600-mile roadway, 24 to 36 feet wide, extends from Fort St. John, B.C.,* through Whitehorse, to Fairbanks, Alaska. It was virgin territory, and a pioneer air route, in the spring of 1942; on Nov. 20, 1942, it was officially opened for wheeled traffic. About 10,000 United States engineer troops and 4,000 civilians, of whom half were Canadians, hewed their way through the bush, bridged the rivers, overcame mountain grades and surfaced a roadbed, to permit a continuous journey by car before the year was out.

The maximum grade in hill country is 10 p.c.; in foothill country, 5 p.c. The Agreement between Canada and the United States requires that the United States complete the work and maintain it for six months after the War after which all sections in Canada will be returned to Canadian jurisdiction.

Motor-Vehicles.—The number of motor-vehicles registered in Canada increased steadily and rapidly from 3,054 in 1908 to 276,893 in 1918. The highest point in the pre-depression period was reached in 1930 when the total registration numbered 1,232,489 cars; this figure was exceeded in 1935 and each year since then showed an increase until 1942 when the number was reduced by war conditions.

Since 1941 there has been a drastic curtailment in the use of motor-vehicles for passenger transportation, which has applied not only to privately owned passenger

*Dawson Creek, about 30 miles to the southwest, is the railhead from which supplies are trucked in to Fort St. John. The existing road between Dawson Creek and Fort St. John has been improved and to all intents and purposes forms part of the main highway.

cars but also to bus transportation and taxi service. This has been a direct result of the diversion of all manufacturing facilities to war production and of the rigid restrictions in the use of rubber and gasoline for any but vital war needs.

Provincial revenue from motor-vehicles for 1942 totalled \$85,323,087, including: \$28,498,676 from motor-vehicle registrations, drivers' permits, etc., and \$56,824,411 from gasoline tax of which \$9,372,589 was paid by the Dominion Government to offset reduced taxes. During 1942 there were 1,386 persons killed in motor-vehicle accidents, which was a decrease of 466 from the peak of 1,852 reached in 1941.

Motor-Vehicles Registered in Canada, 1935-42

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1935...	8,231	43,952	31,227	170,644	564,076	70,660	94,792	93,870	98,411	1,176,116
1936...	7,632	46,179	33,402	181,628	590,226	74,940	102,270	97,468	106,079	1,240,124
1937...	8,011	50,048	36,780	197,917	623,918	80,860	105,064	100,434	116,341	1,319,702
1938...	7,992	51,214	37,110	205,463	669,088	88,219	109,014	107,191	119,220	1,394,853
1939...	8,040	53,008	38,116	213,148	682,891	88,864	119,018	113,702	122,087	1,439,245
1940...	8,070	57,873	39,000	225,152	703,872	90,932	126,970	120,514	128,044	1,500,829
1941...	8,015	62,805	41,450	232,149	739,194	96,573	131,545	126,127	134,499	1,572,784
1942...	7,537	58,872	37,758	222,622	715,380	93,147	130,040	125,482	132,893	1,524,153

¹ Includes Yukon.

Canals.—There are six canal systems under the Department of Transport, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near Lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to Lake Huron, and (6) from the Atlantic Ocean to Bras d'Or Lakes in Cape Breton. These canals have opened to navigation from the Atlantic about 1,890 miles of waterways. Under the Department of Public Works or other authority are minor canals and locks that facilitate local navigation.

Standing Guard over One of Canada's Merchant Ships in Dry Dock.



Courtesy, Canadian National Railways

The Great Lakes and St. Lawrence River form one of the busiest waterways in the world. More traffic passes up and down the Detroit River than any other waterway and the traffic through the canals at Sault Ste. Marie, Ont., in 1929 reached a peak of 92,616,898 tons, more than through the Panama and Suez Canals combined. Due to heavy war requirements for iron ore this margin was increased to a total of 111,120,556 tons in 1941. War-time restrictions preclude the publication of later figures.

The maximum draught of vessels plying between the lakes is governed by channels in the Detroit and St. Mary's Rivers, and is limited to about 21 feet. Since 1932 when the New Welland Ship Canal, with 25 feet in the stretches between locks (the locks have 30 feet of water above the sills), was opened, larger upper-lake vessels have passed down as far as Prescott. The St. Lawrence canals have a depth of 14 feet (reduced in periods of low water) so that ocean vessels, except of small tonnage, cannot sail up into the lakes; a few such vessels were engaged in the Great Lakes traffic for several years, bringing cargoes from European ports.

Shipping.—Canadian shipping is divided into two classes: (1) foreign service, and (2) coasting service. The first is subdivided into: (a) seagoing, i.e., between Canadian ports on the Pacific and Atlantic Oceans and on the St. Lawrence up to Montreal, including fishing at sea and at ports in other countries; and (b) inland, i.e., between Canadian and United States ports on the Great Lakes and connecting rivers. The second is service between Canadian ports, including fishing in Canadian waters.

Shipping statistics are collected only from ports at which there is an official of the Customs and Excise Division of the National Revenue Department, and consequently do not include shipping on Mackenzie River, Lake Winnipeg, etc.

Vessels Entered at Canadian Ports, 1935-42

Fiscal Year	Foreign Service ¹		Coasting Service		Total	
	No.	Tons Register	No.	Tons Register	No.	Tons Register
1935.....	34,918	41,852,110	68,441	43,146,037	103,359	84,998,147
1936.....	37,800	41,746,953	69,809	42,979,361	107,609	84,726,314
1937.....	41,755	45,030,914	73,033	45,973,830	114,788	91,004,744
1938.....	42,582	45,603,055	75,537	44,471,834	118,119	90,074,889
1939.....	43,601	44,775,116	73,386	45,386,457	116,987	90,161,573
1940.....	46,241	46,666,396	78,212	44,361,232	124,453	91,027,628
1941.....	25,122	32,579,900	79,951	50,471,166	105,073	83,051,066
1941 ²	26,203	31,452,400	77,592	48,111,082	103,795	79,563,482
1942 ²	24,066	25,640,763	73,366	43,990,764	97,432	69,631,527

¹ Sea-going and inland international.

²Calendar year.

Canadian Scheduled Air Transport Services.—*Government Air Policy.*—In a statement to the House of Commons in April, 1943, the Prime Minister said that Trans-Canada Air Lines would "continue to operate all trans-continental systems and such other services of a mainline character as may from time to time be designated by the Government" and that Trans-Canada was "the sole Canadian agency which may operate international air services".

Trans-Canada Air Lines in 1943.—During 1943, Trans-Canada Air Lines continued to grow. It was not so much a year of expansion as of intensification of

Canada has been a pioneer in the transportation of freight by air; to-day facilities are taxed to their limit in carrying defence cargo and war personnel to points along the Alaska Highway and in the Far North.

Courtesy, Canadian Pacific Railway



existing services. The only route extension was from Vancouver to Victoria, but in September three daily flights were added to the schedules between Montreal and Winnipeg and between New York and Toronto. In the first seven months of the year (July is the latest month for which figures are available), T.C.A. aircraft flew 4,990,244 miles, an increase of 608,507 miles over the corresponding period in 1942.

From Jan. 1, 1943, to the end of July, Trans-Canada carried 2,048,774 lb. of mail, an increase of 991,708 lb. over the first seven months of the previous year; an express load of 406,206 lb., an increase of 265,049 lb.; and 78,215 revenue passengers, an increase of 21,125. An example of the growth of traffic was July, the heaviest month for air mail in the Company's history up to that time. The amount carried was 316,547 lb., an increase over June of 7,428 lb., and over July, 1942, of 123,576 lb.

An important event of the year was the inauguration of a transatlantic service, a war-time operation Trans-Canada assumed on behalf of the Government. The Air Line continued its maintenance work for the British Overseas Airways Corporation return ferry service across the Atlantic and, in its Winnipeg shops, overhauled many aircraft engines, propeller assemblies, instruments and accessories for the Royal Canadian Air Force, for schools operating under the British Commonwealth Air Training Plan, and for the British Overseas Airways Corporation.

Trans-Canada has created at Winnipeg one of the most complete aircraft engineering and maintenance shops on the continent. Here, trained staffs keep the fleet of twenty-four transports in the finest flying trim and provide shop service for military aircraft.

Routes now in operation total 4,903 miles, made up as follows: St. John's, Newfoundland, to Victoria, B.C., 3,911 miles; Halifax to Moncton, 120 miles; Toronto to New York, 365 miles; Toronto to London and Windsor, 206 miles; Lethbridge to Calgary and Edmonton, 301 miles.

A high percentage of the male personnel of T.C.A. has enlisted in the Armed Forces and manpower is one of the serious problems confronting the company. The policy of employing women and ex-service men was continued during the year. More than 35 p.c. of the staff is now female.

Canadian Pacific Air Lines.—The consolidation of the many independent commercial operators chiefly engaged in servicing the mining industry in northern Canada has been proceeding gradually for the past two years. The Canadian Pacific Air Lines now controls the operation of Canadian Airways Limited, Arrow Airways



Control Terminal Telephone Equipment, Montreal.—This St. John's, Newfoundland, circuit has a "speech inverter" which makes the voice currents unintelligible to anyone who might attempt to listen in with a radio set. A telephone call between any point on this Continent and Newfoundland must pass through this equipment since it is the only telephone link with Newfoundland.

Courtesy, National Film Board

Limited, Ginger Coote Airways, Prairie Airways, Mackenzie Air Service, Yukon Southern Air Transport Limited, Dominion Skyways Limited, Quebec Airways, Wings Limited, Starratt Airways and Transportation Company.

The component companies of the C.P.A. in 1942 flew approximately 5,300,000 miles, carried 60,000 passengers and 10,000,000 lb. of freight, express and mail. Their employees numbered 7,000. Ninety per cent of the Company's business is now for war purposes—in the northwest for the important developments in these remote districts arising out of the Joint Defence Programs of Canada and the United States for the defence of northwestern Canada and Alaska; in the northeast in connection with the construction of plants for war industries and of aerodromes. "Bush" services have been maintained in all important areas; the reduction in activity due to the decline in gold mining has been compensated for by the increased war-time search for essential war minerals.

To meet the increasing traffic, more efficient and larger twin-engined aircraft have been placed in operation on several routes replacing the former ski-float operations. Up-to-date air navigation facilities, including aerodromes, radio ranges, improved weather and communication services and lighting are also being installed so as to permit of all-weather, night and day operation. Every effort is being made to bring such services up to mainline standards as rapidly as possible.

Independent Air Lines.—Although many of the principal operating companies have been absorbed by C.P.A., there still remain independent organizations in this field. Typical of these are Maritime Central Air Lines which operates a mail, passenger and express service between Moncton, Saint John, Summerside and Charlottetown; the M. and C. Aviation Company, which at present operates a licensed air-mail, passenger and express service from Prince Albert to northern Saskatchewan points and (under contract with the Department of Munitions and Supply) an engine and overhaul shop.

Telegraphs.—Six telegraph systems are operated in Canada, five in conjunction with the railways and one small system that is owned and operated independently. One United States company operates lines across Canadian territory; one private Canadian company operates a wireless system; and three cable companies, in addition to the telegraph companies, operate cables from Canadian stations. In all 22 cables are operated between Canada and England, Azores, Australia, New Zealand, Newfoundland, St. Pierre and Miquelon, and Bermuda, and 2 cables between North Sydney and Canso, N.S.

These systems operate 376,548 miles of telegraph wire in Canada, 5,405 miles outside of Canada, and 32,805 nautical miles of submarine cable between Canada and other countries. Multiple circuits normally produce 731,826 miles of channels for telegraphic use. During 1942 a total of 15,422,131 telegrams and 1,149,824 cablegrams, excluding messages between foreign countries, were handled over these wires.

Telephones.—There were 3,209 telephone systems in Canada in 1941, operating 5,882,223 miles of wire and 1,562,146 telephones. The estimated number of conversations during the year was 3,011,527,000 or 1,928 per telephone. Almost half of the telephones are dial telephones and are operated by automatic switchboards, the increase in dial telephones during 1941 being 94,383 as against an increase of 6,725 telephones connected with manually operated switchboards.

National Broadcasting.—In addition to the Canadian Broadcasting Corporation, there were 97 private commercial broadcasting stations operating in Canada in 1943. The CBC, however, operates under the Canadian Broadcasting Act which gives it regulatory powers over all broadcasting stations and its network gives effective coverage to almost the entire population.

Since November, 1936, when the CBC succeeded the former Canadian Radio Broadcasting Commission, many changes in radio-listening habits throughout the Dominion have been noted. Audience have grown steadily, as reflected in the increased revenues from licence fees. There is much less listening to stations located outside of Canada than there was a few years ago, while program selection, rather

Behind the Scenes.—This odd accumulation of paraphernalia is the apparatus by which the operator produces the wide variety of sound effects required for the average radio dramatic broadcast.



Courtesy, Canadian Broadcasting Corporation

than station tuning as such, is steadily becoming more prevalent. In the more isolated areas, radio has come to represent the main source of entertainment, of news, of adult education and, indeed, in many communities, of cultural development.

The progressive step of setting up a publicly owned broadcasting organization grew out of a national necessity. The extension of coverage to embrace the vast rural, as well as urban, areas was vital. This has been brought about by the erection of more powerful stations and by extending land lines to numerous other stations. Hours of network operation have been extended from a limited schedule to a full 16-hour schedule. Regular interchanges have been established with the BBC and United States networks, so that to-day CBC listeners enjoy much of the very best from six great networks.

The members of the Board of Governors are appointed for three years, in rotation, to act as "trustees of the national interest in broadcasting". They are responsible for the policies of the Corporation, and for guaranteeing to the public that broadcasting will be administered in a non-partisan and business-like manner. The CBC is responsible to Parliament through the Minister of National War Services.

Transmission Facilities.—The so-called CBC national network consists of 10 CBC owned and operated stations (four 50,000-watt regional and six other transmitters), together with 26 privately owned affiliated stations. This network also carries CBC sustaining features, which are distributed over many other stations not at present on the basic network. The four 50,000-watt stations of the Corporation are located in strategic areas where they reach numerous listeners who otherwise are largely in isolated areas. In addition, several low-power shortwave stations augment this network and carry CBC programs to remote parts of the country. Eight low-power stations, operating automatically on the network, have been constructed and put into operation by the CBC at Sioux Lookout, Ont., at Edmundston, N.B., and in British Columbia at Kimberley, Fernie, Cranbrook, North Bend, Creston, Revelstoke, Quesnel, Williams Lake and Prince George.

Consideration is being given to the setting up of a second national network of domestic radio broadcasting stations to provide alternative program service, especially during evening hours. It is expected that by 1944, an international short-wave transmitter centre with two 50,000-watt transmitters and three elaborate antenna systems will be in operation at Sackville, N.B., relaying CBC and specially designed programs to all parts of the world.

Programs.—During the fiscal year ended Mar. 31, 1943, the CBC's total program production amounted to 15,699 hours and 51,672 individual programs, representing the highest peak yet reached in terms of individual programs and hours of operation. The primary reason for this growth is the trend towards a more complete and comprehensive service to each of the five geographical time zones with emphasis being placed on the presentation of specialized programs directed to specific audiences at the most appropriate time for listening. Such programs as farm, educational, children's and women's come in this category and show a marked increase over the past few years.

CBC and the War.—To-day, while the task of gradually improving programs goes steadily on, the CBC recognizes that its chief responsibility is to the nation at war. With industry and the Armed Forces absorbing larger and larger sections of the community, the task of providing accurate information about events at home and abroad and of retaining the links that bind Canadians in other parts of the

Short-wave Programs are Received at the CBC Listening Post.—The operator carefully regulates the tuning and volume of the "signal" fed by special telephone wires to all of the stations making up the CBC national network.

Courtesy, Canadian Broadcasting Corporation



world with their homeland takes precedence. Such programs as those devoted to the interests of farmer and labour take on a new significance in time of war and cannot be considered less than essential to the national effort. Naturally, too, programs designed to interpret the latest governmental regulations and legislation, as they affect the individual, find place in broadcasting schedules. Attention is also directed to regularly scheduled talks originating in Canada, Britain and the United States, which deal with one of the War's many phases. The CBC co-operates with all Government War Departments and has staffs, including war correspondents and engineers, with the Canadian troops in North Africa and Italy.

Broadcasting CBC News.—The CBC news service is available to all radio stations in Canada to which there are land lines. Private stations may release the CBC news service only on a sustaining, non-sponsored basis. Newsrooms are maintained by the CBC at Halifax, Montreal (which provides news in both English and French), Winnipeg and Vancouver with a central newsroom at Toronto. The Canadian Press and British United Press both provide full news services to the CBC, while reports are picked up by the CBC shortwave listening-post at Ottawa and also received from CBC war correspondents overseas. The CBC pays for its news service from CP and BUP, but rewrites the bulletins for radio consumption, incorporating items of unusual interest from the other sources mentioned.

The Post Office.—War-time conditions have brought a continuing and enormous expansion of postal business of all kinds throughout Canada; war industries, governments, and private citizens are utilizing postal facilities as never before. This is revealed by the gross postal revenue, which has increased from \$42,896,179 in the fiscal year 1938-39 to \$59,175,138 in 1942-43.* In the latter year, money orders to the amount of \$233,004,136 payable in Canada and \$3,921,784 payable in other countries were issued, together with postal notes to the value of \$22,246,021.

Air Mail.—To-day, with the emphasis on speed in war production, the Trans-Canada Air Mail System—now operating twice daily each way from the Atlantic to the Pacific over some 3,300 miles—is proving an invaluable asset, and air-mail volume continues to increase, over 278,593 lb. being carried during the last month

*The increase in postal rates allowed for in the 1943 Budget was not effective until the next fiscal year.



Opening Table and Primary Sortation of Parcel Post at an Army Base Post Office.

Courtesy, National Film Board

of the fiscal year 1942-43. Swift connections are made with the United States and other air-mail networks of the world. Canada's expanding use of the air-mail services is reflected in the following figures:—

	<i>Miles Flown No.</i>	<i>Mail Carried lb.</i>
1938-39.....	3,711,987	1,822,399
1939-40.....	5,769,257	2,351,172
1940-41.....	8,330,121	2,842,367
1941-42.....	10,021,579	3,541,625
1942-43.....	10,799,670	5,373,021

Military Mails.—The Canadian Postal Corps was originally recruited from executives and personnel of the Canadian Post Office in 1939 and is serving all branches of the Armed Forces. The Base Post Office in 1942-43 despatched overseas the record volume of over 21,800,000 lb. of parcels, 534,000 lb. of letters and 1,597,000 lb. of news to the fighting services. Members of the Armed Forces overseas, including Auxiliary Services, have been allowed free mailing on letters to Canada and special reduced rates on gift parcels mailed from Canada. New facilities have been established to expedite correspondence with the Armed Forces in the form of Airgraphs—letters on film that travel by air—and the Armed Forces Air Letter—a combined lightweight letter and envelope operating at the low postage rate of 10 cents. Special arrangements are also in effect for communication with prisoners of war interned abroad. Since December, 1943, flying fortresses have carried mail to the Armed Forces to speed up mail delivery to Italy and North Africa.

CHAPTER XI

Labour—Employment and Unemployment—Pensions

Labour Legislation in Canada

The Dominion and Provincial Fields.—In Canada most labour laws have been enacted by the provinces as they relate to civil rights or to local works and undertakings, subjects which, with the exception of certain specified works, railways, shipping, telegraphs and other works extending beyond the boundary of a province, are, under the British North America Act, reserved to the provinces. In all provinces, except Prince Edward Island in which there is little industrial employment, there are laws for the regulation and inspection of mines, factories, shops and other workplaces and dealing with wages, hours of work, the employment of women and children and workmen's compensation. In some provinces laws have been enacted to protect the right of association, to require employers to bargain with the representatives of employees or with trade union officers and to prohibit any strike or lockout until after inquiry.

The Dominion regulates working conditions of its own employees, provides compensation for them in case of accident or certain diseases arising out of their employment and requires observance of specified wage and hour conditions in the execution of Dominion public works and of contracts for supplies. There are Federal laws relating to employment on railways and in the mercantile marine and, under its power over criminal law, Parliament enacted legislation freeing trade unions from liability to prosecution as conspiracies, permitting peaceful picketing, and prohibiting employment on Sunday except under certain conditions. In 1940, a statute was passed providing for a national system of unemployment insurance and of employment offices (see pp. 145-6).

The Dominion and the provinces have co-operated to enable the former to deal with certain classes of labour disputes under a Dominion statute, the Industrial Disputes Investigation Act. This Act prohibits a strike or lockout, pending investigation of the dispute by a tripartite board, in mining, transport, communication services and certain public utilities within Dominion jurisdiction or in any such industries within provincial jurisdiction if legislation of the province in question has made the Act applicable. In all provinces, except Prince Edward Island, Alberta and British Columbia, there is legislation to this effect.

In 1900 a Dominion Department of Labour was established under the Conciliation Act to aid in improving labour conditions and settling disputes through mediation and the dissemination of information. The Minister of Labour is charged with the carrying out of the Fair Wage Policy for Government contracts, the Industrial Disputes Investigation Act, Government Annuities Act, Combines Investigation Act, Vocational Training Co-ordination Act, Unemployment Insurance Act and Re-instatement in Civil Employment Act. Information on the operation of these statutes is given in the annual reports of the Department and of the Unemployment Insurance Commission and also in the *Labour Gazette*, which is issued monthly.

Departments of Labour in all provinces, except Alberta, Saskatchewan and Prince Edward Island, administer most provincial labour laws, but in the four western provinces the Workmen's Compensation Boards are independent and in New Brunswick the Board, which is under the Provincial Secretary, enforces the Factory Act. In Alberta the Department of Trade and Industry, through the Board of Industrial Relations, deals with wages and hours legislation and with factory inspection. The Saskatchewan Bureau of Labour and Public Welfare is under the Minister of Municipal Affairs. In all provinces laws for the protection of miners are administered by the respective Departments of Mines.

War Regulations.—To deal with problems arising out of the War, a number of Orders in Council have been made under the War Measures Act. A declaration of principles for the conduct of industrial relations in war-time was embodied in an Order in Council. The Industrial Disputes Investigation Act was extended to war industries and provision was made for preliminary inquiries into disputes by industrial disputes inquiry commissioners with a view to settlement, if possible, without recourse to the appointment of a board of conciliation and investigation (see pp. 136-7).

A comprehensive National Selective Service Program has been put into effect which is designed to secure the most effective distribution of manpower both within industry and between industry and the Armed Forces (pp. 146-7). Skilled workers for these categories are trained under a War Emergency Training Program (see p. 148). A comprehensive wages control policy is in effect (see below) and is supplemented by the control of salaries. Persons discharged from the Armed Forces must be re-instated in their former jobs and other steps have been taken to assist them in re-establishing themselves in civil life. Pensions and compensation are provided for Canadian seamen and salt-water fishermen who suffer disability, loss of effects, etc., as a result of enemy action.

Control of Wages

This policy is part of the Government's general anti-inflationary program. It was first introduced in December, 1940, but, at that time, though it was recommended for all employers, it applied only to Boards of Conciliation and Investigation in their recommendations on wages. In October, 1941, when comprehensive price control was introduced, the wages-control policy was amplified and extended to cover all employers and workers.

The present policy is embodied in the Wartime Wages Control Order under which wage rates are stabilized at the level in effect on Nov. 15, 1941, though provision is made for raising rates that are unduly low. At the same time, the imposition of undue hardship on wage-earners is avoided by the payment of a cost-of-living bonus, which is adjusted with changes in the cost-of-living index. A National War Labour Board and nine Regional War Labour Boards have been set up to administer the Order.

In building and construction, wages for the skilled trades in cities are from 60 cents to \$1.25 and for labourers 40 to 65 cents per hour, all plus cost-of-living bonus of \$2.25 per week.

On steam railways, shop mechanics are paid 72 to 79 cents and sectionmen 38 to 43 cents per hour, plus the full cost-of-living bonus of \$4.25 per week. On steamships, seamen or deckhands on the east coast and lower St. Lawrence are paid \$52.50

Men and Machines in a Large Munitions Plant in Ontario.



Courtesy, Canadian Westinghouse Co. Ltd.

to \$90 per month with board and lodging; on the west coast \$65 to \$90 and on the Great Lakes and upper St. Lawrence \$62.50 to \$78, plus \$2.60 to \$15.60 per month cost-of-living bonus. In addition, crews of ships operating in coastal waters designated by the National War Labour Board receive a war risk bonus of \$25 per month and \$45 if on trans-oceanic vessels.

In the shipbuilding industry skilled workers are paid 70 to 90 cents, other workers 40 to 80 cents per hour plus cost-of-living bonus of \$4.25 per week. In the aircraft industry rates for skilled trades range from 70 cents to \$1.05; for production workers (assemblers), 50 to 85 cents per hour, most of whom receive the full cost-of-living bonus of \$4.25 per week. In other manufacturing, wages for skilled metal trades are generally 50 cents to \$1.25 per hour, for printing trades \$25 to \$51 per week, for clothing factory cutters from \$35 to \$50 per week and for newsprint machine tenders \$1 to \$1.75 per hour. The predominant rates for semi-skilled male workers are 45 to 80 cents per hour; for female workers 30 to 60 cents. The cost-of-living bonus in general manufacturing ranges from 60 cents to \$4.25 per week (or 2.4 to 17.0 p.c. to certain classes earning less than \$25 per week).

In the principal coal mines, wages for contract miners are \$6 to \$8 per day, for labourers \$3 to \$5; in metal mines, rates for miners and skilled mechanics are \$5 to \$6.50 per day and for labourers \$4 to \$4.50. The full cost-of-living bonus (71 cents per day) is paid in most mines, both coal and metal. The average wage for male farm help with board and lodging is \$3.51 per day and \$61.26 per month (August, 1943). In logging camps in Eastern Canada, choppers, sawyers or cutters receive an average wage of \$60 per month with board and lodging, and in British Columbia fallers and buckers are paid an average rate of \$7.80 per day. The compulsory cost-of-living bonus of 60 cents per week is most common throughout the logging industry in both areas.

The standard or normal working hours in manufacturing are in general 48 to 54 per week in textile factories, 40 to 50 in clothing factories, 48 in the pulp and paper industry, 44 to 55 in paper products, 47 to 55 in woodworking, 44 to 60 in metal manufacturing, shipbuilding and aircraft industries, 40 to 55 in the boot and shoe and rubber industries. The 8-hour day prevails in building trades in cities, on steam railways and in mining. The 10-hour day is common in logging, except in British Columbia where the 8-hour day is standard. Considerable overtime is worked in many industries owing to war demands and the shortage of workers.

Organized Labour in Canada

Trade unions in Canada are divided into four principal groups: those affiliated with the Trades and Labour Congress; those affiliated with the Canadian Congress of Labour; the unions in the Province of Quebec, which are linked with the Confederation of Catholic Workers of Canada; and the railroad brotherhoods of men in train and engine service. The railroad brotherhoods and many of the unions affiliated with the two Congresses are "international unions" in the sense that they have branches in both Canada and the United States and, in some cases, in Newfoundland, Mexico, Panama or the Philippines.

In December, 1942, there were 578,380 trade union members reported to the Department of Labour, an increase of 116,699 over 1941. The 1942 membership exceeded that for 1919, a peak year, by 200,333. The number of branches of unions and of local unions was 3,426, a gain of 108 during the year. The international unions showed an increase of 94,125 in their Canadian membership. The outstanding increase in members was in the metal-working industries chiefly steel workers, automobile workers and machinists.

The Trades and Labour Congress reported, in 1942, a membership of 164,375 and in 1943, 190,778. The Canadian Congress of Labour reported in 1942 a membership of 160,000 and in 1943, approximately 200,000, and the Confederation of Catholic Workers of Canada 46,447 in 1942 and 53,384 in 1943.

Industrial Disputes

For the first ten months (January to October) of 1943, the preliminary figures showed a total of 354 strikes and lockouts, involving 162,773 workers and causing a time loss of 878,344 man-working days. During 1942, there were 354 strikes and lockouts, involving 113,916 workers with a time loss of 450,202 man-working days. The lowest time loss since the inception of the record in 1901 was in 1930 when 91,797 man-working days were lost in 67 disputes involving 13,768 workers. The highest occurred in 1919 when 336 disputes involved 148,915 workers and caused the loss of 3,400,942 man-working days.

Industrial Disputes Investigation Act.—This Act, which was passed in 1907, provides that when there is a dispute that threatens to cause a stoppage of work, the Minister of Labour, on the application of either party or of the municipality concerned, or on his own motion, may refer the matter to a tripartite Board of Conciliation and Investigation. The Board secures a settlement if possible and, if not, makes a report to the Minister, which is published, containing recommendations for settlement "according to the merits and substantial justice of the case".

The Act normally applies to mines, agencies of transport and communication and certain public utilities, and with the consent of the parties its machinery may also be used in connection with disputes in other industries. At the beginning of the present War, its scope was extended to cover all disputes in industries producing munitions and war supplies and in construction work on defence projects. Shortly afterwards the Government issued a declaration of principles for the regulation of labour relations in war-time, in which it was recommended to employers and workers that fair and reasonable standards of wages and other conditions should be established, that hours of work should not be unduly extended but a shift system

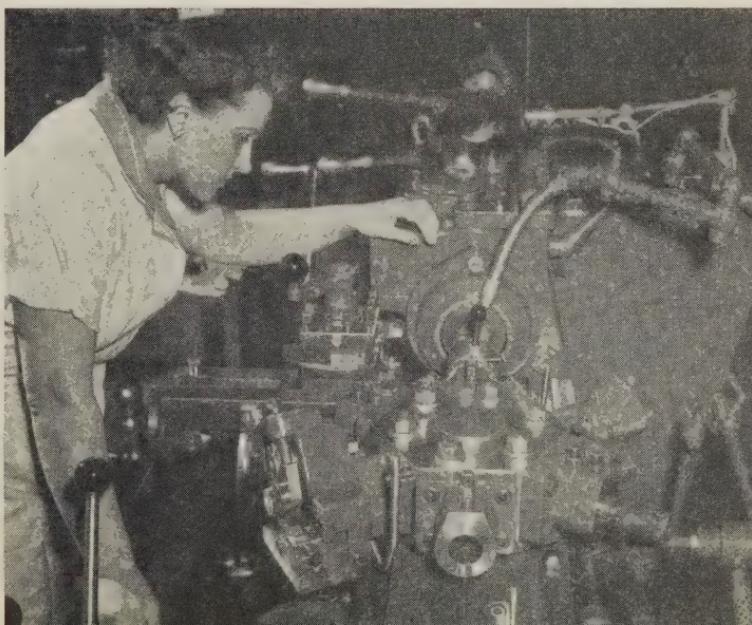
should be established where possible, that every precaution should be taken to ensure safe and healthful conditions of work, that the right of workers to organize in trade unions and bargain collectively with their employers should be recognized, that disputes should be settled by negotiation, with the assistance of the Government conciliation service or under the provisions of the Industrial Disputes Investigation Act and that collective agreements should provide for machinery for adjusting grievances.

The extension of the scope of the Industrial Disputes Investigation Act, together with the great expansion in industrial activity caused by the War, brought about such an increase in the number of applications for boards of conciliation and investigation that provision was made, in 1941, for informal inquiries into disputes by industrial disputes inquiry commissioners with a view to prompt settlement, if possible, without recourse to the more formal and expensive procedure of establishing a board. Commissioners may also be used to examine allegations of discrimination against workers for trade union activity and to inquire into any situation that appears to the Minister of Labour to be detrimental to the most effective use of labour in the War.

Later in 1941, it was provided that workers who were dissatisfied with the recommendations of a board could not strike until a strike vote was conducted among those concerned, under the supervision of the Department of Labour. The Act itself forbids any strike or lockout while a board is dealing with a case.

The increase during the War in the number of cases dealt with under the Act is indicated by the following figures. In the ten years immediately preceding the War, 1929-38, 215 applications were received for the establishment of boards and 92 boards were established. In four years of war, from Sept. 1, 1939, to Sept. 30, 1943, 462 applications were received and 168 boards established. This increase took place in spite of the fact that since October, 1941, disputes over wages have not been dealt with under the Industrial Disputes Investigation Act but by the National War Labour Board (see pp. 134-5).

A Girl Operating a Turret Lathe in the Naval Gun Plant of a Munitions Plant.



Courtesy, Canadian National Railways

Employment and Unemployment

The Effects of the War on Employment in the Dominion

The conduct of war waged under modern conditions must obviously be accompanied by many and profound changes in the industrial lives of the nations involved therein; the numbers, the occupations, the sex and the age distributions of wage-earners in all countries are inevitably influenced to an important extent by the exigencies of such a conflict. The impact of the present War upon the Canadian industrial life may, in part, be measured by the current statistics of employment and payrolls maintained in the Dominion Bureau of Statistics; these depict the month-to-month changes in the geographical and industrial distributions of large proportions of the total salary- and wage-earning population of the Dominion. They do not, however, yield any information respecting changes in the age and occupational distributions, although valuable data in regard to the sex of the workers in recorded employment as at Oct. 1, 1942 and 1943, were collected in connection with the monthly surveys.

The effects of the War upon industrial employment, generally, in the Dominion during the first four years may be roughly divided into three phases. The first of these dated from the period immediately preceding the outbreak of hostilities, when a European conflict appeared inevitable to the Fall of France in June, 1940. In this period, recognition was given to the importance of utilizing Canadian industrial and material resources, largely immune from the danger of bombing but relatively close to the theatre of operations. Accordingly, preliminary plans were laid for the organization of industry which, in a country only partially industrialized, would be required to adapt and extend peace-time production to meet vast war-time needs and to co-ordinate such production with that of Great Britain. The initial development of the Commonwealth Air Training Plan likewise tended to stimulate industrial activity. Nevertheless, no particularly marked upswing resulted immediately from these causes; the reserve of unemployed persons remained large, while work undertaken for the relief of unemployment continued to be an important factor in the situation.

The outbreak of war early in September, 1939, intensified the activity of what may be termed the organization period; considerable numbers of men enlisted in the Armed Forces, others were employed to guard against sabotage, there was an increase in employment in the production of commodities required in the conduct of war, and also in the manufacture of consumers' goods, the latter largely resulting from panic-buying in expectation of increased prices and shortages. These influences were reflected in a moderately rising level of employment until the end of the year; the advances at Nov. 1 and Dec. 1, which were contra-seasonal, brought the index of employment at the latter date to a position rather higher than at Dec. 1 in any earlier year of the record.

The seasonal contraction indicated at Jan. 1, 1940, was on a scale decidedly below-average. Although the trend in succeeding weeks was slightly retrogressive, industrial activity generally continued at a somewhat higher level than in the opening months in preceding years of the record. This superiority was lost at May 1, however, when the index of employment fell below that of May 1, 1929; the curve at June 1, 1940, was also below its level at June 1, 1929. Thus this initial phase of the war effort was marked by some increase in general industrial employment, but the expansion was not of outstanding dimensions. The curtailment in unem-



Thousands of boys across Canada spent their 1943 summer vacations on farms to help relieve the farm labour shortage.

Courtesy, Family Herald and Weekly Star and National Film Board

ployment relief undertakings, and the virtual elimination of public works (other than those required for defence purposes), were among the factors contributing to the early changes that took place in the industrial distribution of workers as a result of the outbreak of the War, from which event date substantial and almost uninterrupted advances in manufacturing. The employment of women, in many cases, to fill vacancies due to enlistments in the Armed Forces was the first step in a movement that was later to grow to considerable proportions.

As the pattern of the War unfolded, with the developments in Norway and the Low Countries, climaxed by the Fall of France in June, 1940, the effect of the War upon industry entered upon its second and more dynamic stage. The critical position in which Great Britain was placed as a result of these events, together with the large-scale bombing of her industrial centres, gave a great stimulus to industrial production throughout the British Empire and the United States. Evidence of this in Canada was provided by the sharply upward direction taken by the curve of industrial employment. This expansion, which practically eliminated seasonal influences, except in industries wholly dependent upon climatic conditions, extended in greater or lesser degree to all parts of the country, and to a great many of the industrial divisions; it was accompanied by relatively larger advances in the pay-rolls. Thus, the annual Census of Industry reported a rise of 26 p.c. in employment in manufacturing as a whole from 1940 to 1941, while the gain in aggregate payrolls was 37 p.c. The sex distribution of manufacturing operatives also underwent considerable variation, partly resulting from the replacement of large numbers of recruits by female workers, and partly from the reorganization of industrial processes to permit the work to be carried on by women, or by adolescents. The gain in the number of females engaged in manufacturing in 1941 as compared with 1939 was 50.3 p.c.; that reported for male employees was 44.9 p.c.

The development of war production brought with it increasing shortages of labour and materials; to cope with this situation, drastic curtailment of consumer goods was ordered by the Government, which also took steps to regulate the labour market. Regulation and stabilization of wages and salaries was also decided upon to prevent important loss of production through industrial disputes, as well as to curb the inflationary tendencies inherent in a state of full, or practically full employ-

ment, accompanied by short supplies of consumer commodities. The steps taken involved the payment of a cost-of-living bonus, fluctuating with the cost-of-living index, and the imposition of ceilings on salary- and wage-rates.

In this second phase of the industrial war effort, the reserve of unemployed persons was virtually exhausted; the employment of women, and of the older and the younger workers, substantially increased, and there were important changes in the industrial distribution of the wage-earning population. Evidence of these changes is found in the data obtained in the monthly surveys of employment; these show that the persons employed by manufacturing establishments, who had constituted 50.7 p.c. of the total personnel reported at the outbreak of war, formed 58.0 p.c. of the much greater total indicated at Dec. 1, 1941. Within the manufacturing division, the proportion engaged in the production of durable goods rose from 40 p.c. to 50 p.c. in the same period. In that period, the number employed in this class of manufactures considerably more than doubled, whereas those in the production of non-durable goods increased by about 40 p.c. The all-industries index (1926=100) increased from 119.6 at Sept. 1, 1939, to 168.8 at Dec. 1, 1941, or by 41 p.c.

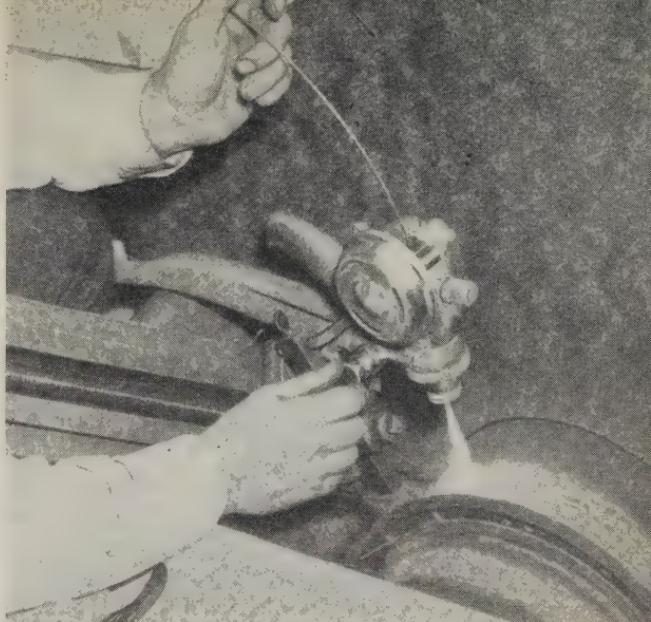
The third stage of the Dominion's industrial war effort followed the outbreak of war in the Pacific in December, 1941. This period was characterized by increasing shortages of labour and materials, and by a considerable degree of co-ordination of Canadian production with that of United States industry; the former resulted in further curtailment of the manufacture of consumer goods, and of non-essential services, together with a tightening of the regulations regarding the distribution of manpower, in a market seriously affected by a relatively enormous expansion in industrial employment, and by increasing enlistments in the Armed Forces. During this phase of the changing situation, the general advances in employment were at a rather retarded pace, due to the great strides that had been made in the mobilization of the resources—human and material—of a country with a relatively small population. Thus, from the 1942 low point at Mar. 1, to its high at Dec. 1, the gain amounted to about 13 p.c., while in 1941, the rise from the minimum to the maximum employment had been almost 26 p.c. In manufacturing, the movement continued steeply upward, although here too, a tendency for the curve to flatten was discernible. The increase in employment, month by month, in 1942, as compared with the same period in 1941, became progressively less—a trend which was continued in 1943. The movement in the first five months of 1943 was, indeed, almost continuously unfavourable, partly owing to the reassertion of seasonal influences, while the expansion in succeeding months was limited in extent.

The general upswing in industrial employment in the Dominion as a result of the War has been accompanied by relatively greater advances in the payrolls; monthly data respecting the latter have been collected only from the early months of 1941. From June 1 of that year, to Oct. 1, 1943, the increase in employment amounted to 22.7 p.c., and that in the payrolls to 50.7 p.c. In manufacturing, the gains were even more pronounced, being 37.7 p.c. in recorded employment, and 71.8 p.c. in payrolls. The weekly average earnings per employee rose from \$25.25 at June 1, 1941, to \$31.48 at Oct. 1, 1943.

Summary.—From Sept. 1, 1939, to the latter part of 1943, employment in all parts of the Dominion, and in most industrial divisions, showed greatly heightened activity. Geographically, the gains were naturally most marked in the more highly industrialized cities and provinces. Industrially, the largest expansion was in manu-

Employee Co-operation in Industry.—A metallizing gun in action; a stainless steel wire is being fed into the gun, then melted in the oxygen-acetylene flame, and sprayed on an undersize shaft—a simple operation which saves time, money and materials. The idea behind the operation was developed by an employee of a large pulp and paper company and has resulted in an estimated saving of \$1,075 for each worn shaft thus treated.

Courtesy, Shipping and Shipbuilding Register



facturing, especially in the metal-using, chemical and miscellaneous manufactured product divisions, all of which were engaged mainly in the production of munitions. Logging, transportation, communications, services and trade also afforded more employment; in the last-named, however, the prevailing shortage of labour was mainly responsible for a falling-off from the peak reached some months previously, a decline that was partly concealed by the employment of increasingly large proportions of part-time workers. In construction and mining (particularly of precious metals), employment was in smaller volume in the later months of 1943 than at the opening of hostilities, also largely as a result of the labour stringency, together with shortages of materials. Heavy demands for the products of a number of these industries, notably logging and coal-mining, made the shortage of labour available for work therein a matter of considerable concern.

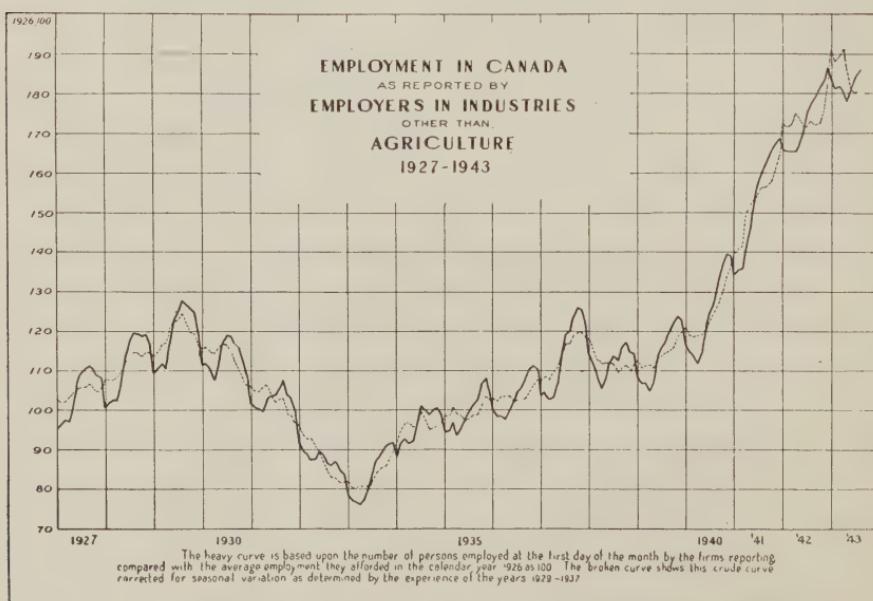
In the latter months of 1943, 60 and 65 p.c. of all those in recorded employment were in the manufacturing industries, compared with less than 51 p.c. of the much smaller number reported at the outbreak of hostilities. The greatest declines as compared with the 1939 distribution were in trade, which employed approximately 8.5 p.c. of the total at Sept. 1, 1943, as compared with over 11 p.c. at Sept. 1, 1939, and in construction, where the falling-off was from 15.8 p.c. at the commencement of war, to some 9.3 p.c. at Sept. 1, 1943.

The increasing employment of women during the period of the War is partly in recognition of their equal or superior efficiency in certain types of work, and partly because they have not been subject to draft for military service. These and other factors resulted in an increase of 15 p.c. in the number of females in recorded employment at Oct. 1, 1943, as compared with Oct. 1, 1942. The number of male workers showed a slight decline. In manufacturing, the increase in the number of women workers was also about 15 p.c. in the twelve months, while the proportion of 282 females per 1,000 workers at Oct. 1, 1943, greatly exceeded that of 220 per 1,000 in 1939, according to the Annual Census of Industry. This upward trend in the employment of women will no doubt continue for the duration of the War, as will the increasing concentration of workers in the industries engaged particularly in the production of munitions and other essential commodities, at the expense of the less-essential production and services.

Employment 1942 and 1943.—The generally upward trend in industrial employment, which has been indicated since the outbreak of war, continued during 1942 and most of 1943. In recent months the rate of acceleration diminished, as the supply of labour became depleted and the war effort reached a more advanced stage of organization. In spite of these factors (the former resulting from large-scale absorption of workers by the Armed Forces as well as by industry), employment generally was rather more active in the first eight months of 1943 than in the same period of any earlier year, while, commencing with Sept. 1, new all-time peaks were established. At Oct. 1, the index of employment in all industries, based on 1926=100, was 187·6, while in the first 10 months the index averaged 183·0; the latter was 6·7 p.c. higher than in the same period of 1942.

The payrolls reported in 1943 also reached a new maximum in the relatively brief experience of these statistics, for which the record goes back only to June 1, 1941. Based upon the disbursements of the co-operating firms at that date as 100, the index of payrolls in the first 10 months of 1943 averaged 143·5, exceeding by 14·4 the figure for the same part of 1942. This increase is relatively greater than that already given as having been shown by the index of employment over the same period.

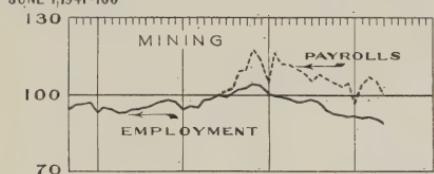
The Dominion Bureau of Statistics tabulated monthly statistics of employment and payrolls from an average of 13,742 employers in the first 10 months of 1943; their employees averaged 1,836,717 while their aggregate weekly payrolls averaged \$56,221,303 in the same period. This represented an average weekly pay envelope of \$30·61 for the typical worker in recorded employment. As compared with the statistics for the same months in 1942, there were increases of 6·7 p.c. in employment, 14·4 p.c. in aggregate weekly payrolls, and 8·2 p.c. in the average weekly earnings. A number of factors contribute to the gain in the average per employee,



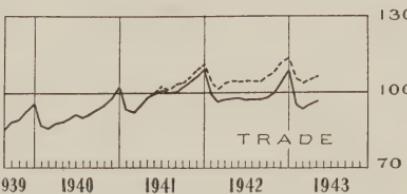
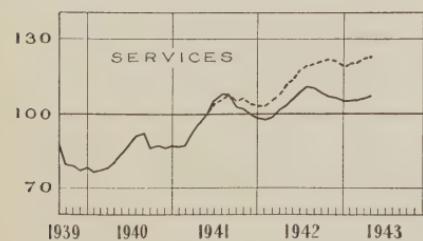
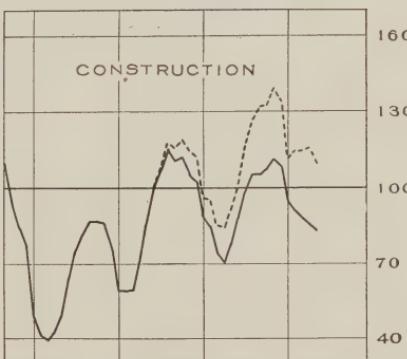
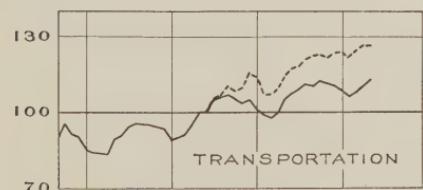
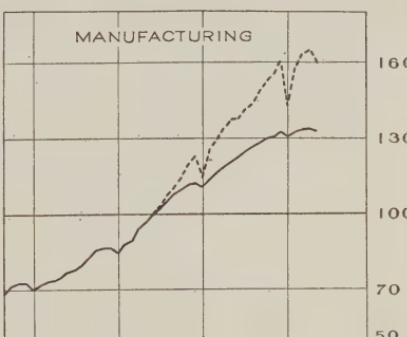
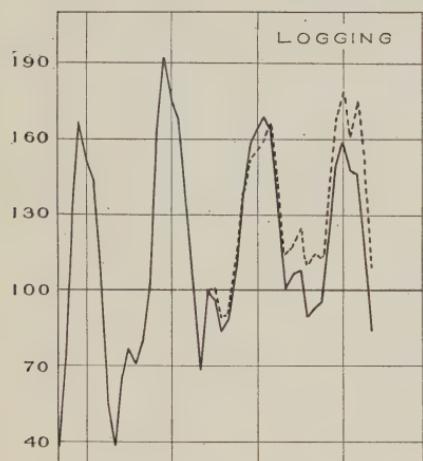
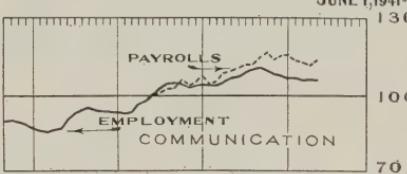
INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS
BY
INDUSTRIES

1939 - 1943

JUNE 1, 1941=100



JUNE 1, 1941=100

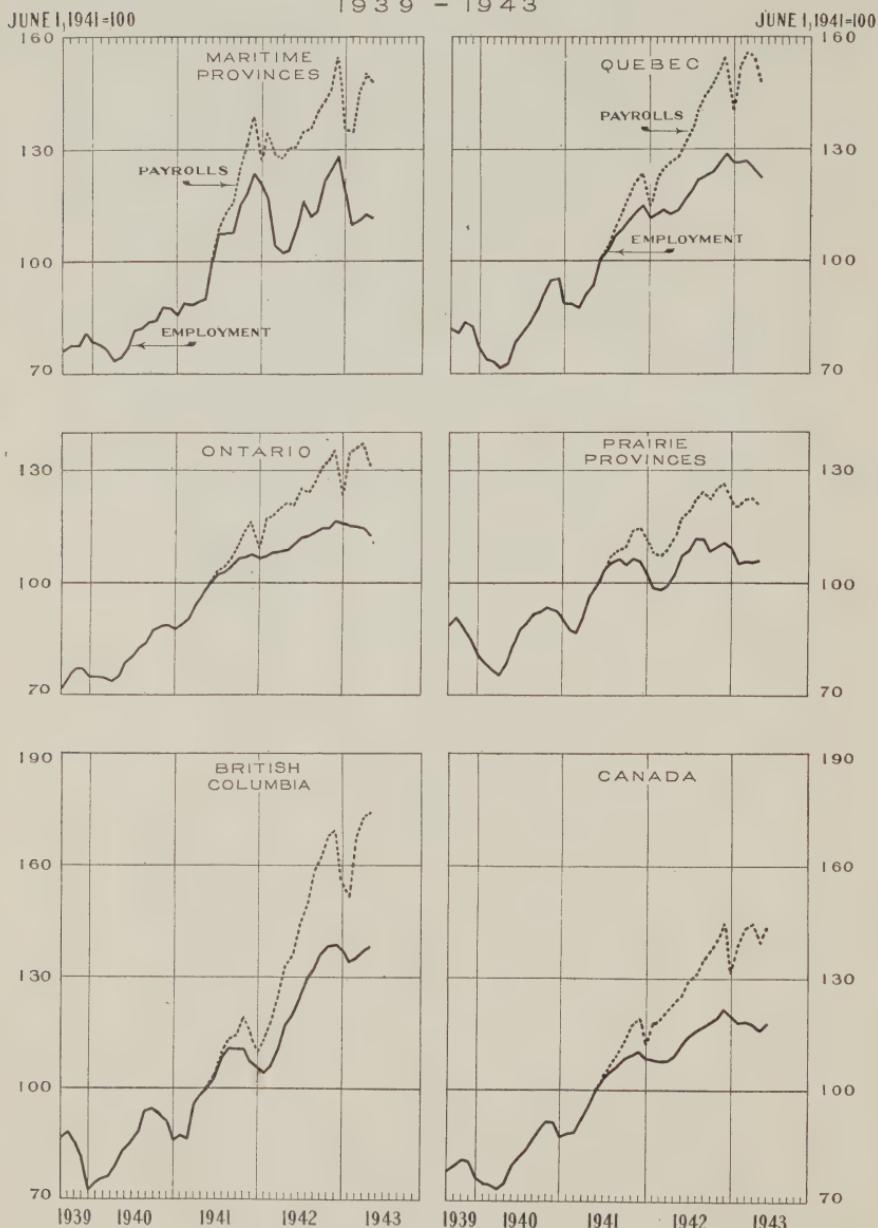


1939 1940 1941 1942 1943

1939 1940 1941 1942 1943

INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS
BY
ECONOMIC AREAS

1939 - 1943



which has taken place in spite of continued dilution of labour. Prominent among these factors is the growing concentration of workers in the more highly paid heavy industries, and the progressive up-grading of employees as they acquire experience.

The index number of employment in manufacturing in the first 11 months of 1943 averaged 225.2, a figure which was higher by 10.6 p.c. than that indicated in the corresponding period of 1942. The payrolls reported in manufacturing advanced by 19 p.c. in this comparison. Although these percentages of increase are noteworthy, they are not so pronounced as those that were indicated in 1942 as compared with 1941. Nevertheless, activity in manufacturing reached successive new all-time high levels month by month from February, 1943.

The production of durable goods, especially of those in the iron and steel group, such as shipbuilding, aircraft and other vehicles and firearms, employed particularly large staffs in 1943, while the non-ferrous metal and electrical apparatus groups also reported substantial expansion. The situation in the lumber industries, and in a number of the non-durable goods industries, was in many cases seriously affected by shortages of labour; in spite of this factor, however, employment generally was maintained at a relatively high level.

Among the non-manufacturing industries, transportation, communications and construction were comparatively brisk; in the first-named, the number of persons employed reached a point rather higher than in any earlier period. The shortage of labour and materials had an adverse effect upon private and commercial building, but other classes of work, mainly connected with defence establishments, showed considerable activity. In logging and mining, the trend of employment generally was unfavourable in the earlier months of 1943, owing to increasingly acute shortages of labour. The services and trade industries also suffered from lack of personnel; however, establishments in these divisions were able to relieve the situation by the employment of additional women, and by part-time workers, to a greater extent than was possible in many other lines. As a result, employment therein, on the whole, showed relatively little change from 1942.

Unemployment Insurance and National Selective Service

Unemployment Insurance.—The Unemployment Insurance Act, which became law on Aug. 7, 1940, authorized an Unemployment Insurance Commission to set up and administer a co-ordinated program of unemployment insurance and employment service. The Commission—consisting of a Chief Commissioner and two Commissioners (one Commissioner appointed after consulting employees and one after consulting employers)—was appointed on Sept. 24, 1940.

The Head Office of the Commission is at Ottawa. For the purpose of administration, Canada is divided into five areas known as: the Pacific, Prairie, Ontario, Quebec and Maritime regions. Regional offices located at Vancouver, Winnipeg, Toronto, Montreal and Moncton act as clearing houses for local offices, which are the units through which the employment service and unemployment insurance are operated. Two hundred and ten of these local offices are operating in centres across Canada. The employment service of the Commission now functions as the field organization of National Selective Service.

As at Aug. 31, 1943, the number of registered employers with insured employees was 132,484 and the number of persons in insured employment was 2,650,622.

Unemployment insurance contributions became payable in Canada commencing July 1, 1941. Insured workers and their employers make contributions according

to a graded scale, but in the country as a whole they contribute approximately equal amounts. The Dominion Government adds one-fifth of the total amount contributed by employees and employers to the Unemployment Insurance Fund and, in addition, pays the administrative costs of the scheme.

From July 1, 1941, to Aug. 31, 1943, \$145,008,416 was deposited in the Unemployment Insurance Fund, which includes employee, employer and Government contributions, and interest. Employer and employee contributions to the fund were \$118,148,435. In the same period, the Dominion Government paid \$23,629,687 to the fund.

The Unemployment Insurance Fund is deposited with the Bank of Canada and reserves are invested in Dominion of Canada bonds on the authorization of an Investment Committee, composed of the Governor of the Bank of Canada, the Deputy Minister of Labour and the Deputy Minister of Finance. The total interest derived from investments in the period up to Aug. 31, 1943, amounted to \$3,230,294.

The first date on which claimants could qualify for benefit was Jan. 27, 1942. From that date to Aug. 31, 1943, the amount paid in insurance benefit was \$1,150,672. In this period there were 48,077 claims received at Insurance Offices for adjudication, 37,800 of which were allowed, 9,954 were not allowed and 323 were pending. In the same period the number of appeals made by claimants to the Courts of Referees, In this period there were 48,077 claims received for adjudication at Insurance Offices, was 1,302, 1,125 of which were heard, 70 were pending on Aug. 31, 1943, and 107 were withdrawn. The Courts of Referees allowed 343 claims and disallowed 782.

The Unemployment Insurance Advisory Committee, established under the Act, submits an annual report on the condition of the fund to the Governor in Council. The Committee also gives assistance and advice on questions relating to the operation and scope of the Act referred to it by the Commission.

The National Employment Committee, representing labour, industry, veterans, women's organizations and other interested groups, assists the Commission in an advisory capacity in carrying out the purposes of the employment service. Five Regional Employment Committees and a number of Local Employment Committees have been set up to assist in this work.

National Selective Service.—Organization and allocation of Canada's manpower in such a way that it will contribute most effectively to the War is carried out chiefly under two sets of regulations: the National Selective Service Mobilization and the National Selective Service Civilian Regulations. These regulations are administered by the Director of National Selective Service who is responsible to the Minister of Labour. The Director is advised by a Selective Service Advisory Board consisting of representatives of Government departments and agencies, industry and labour. Under his jurisdiction there are several Associate Directors, who are in charge of the different aspects of the program, and there are also regional directors. Local administration of the mobilization side of the program is carried on through 13 Divisional Registrars and of the civilian side through Selective Service Officers who are the managers of the local Employment and Selective Service Offices.

All men between the ages of 18½ and 30 with or without dependants and all men up to 41 who are without dependants are required to undertake military service if they are medically fit. In order to prevent the absorption into the Forces of men needed elsewhere, however, postponement orders may, under certain circumstances,

be granted to men employed in essential industries, seasonal occupations and agriculture. In addition, men who enlist in the Forces or are already serving may be granted leave to return temporarily to industry if they are urgently needed there.

On the purely civilian side, there are two aspects of the policy: control over the movement of workers and direction of certain workers into more essential jobs. The basis of the program is a carefully drafted schedule of labour priorities, which shows exactly which establishments should be given first call on available labour in any locality.

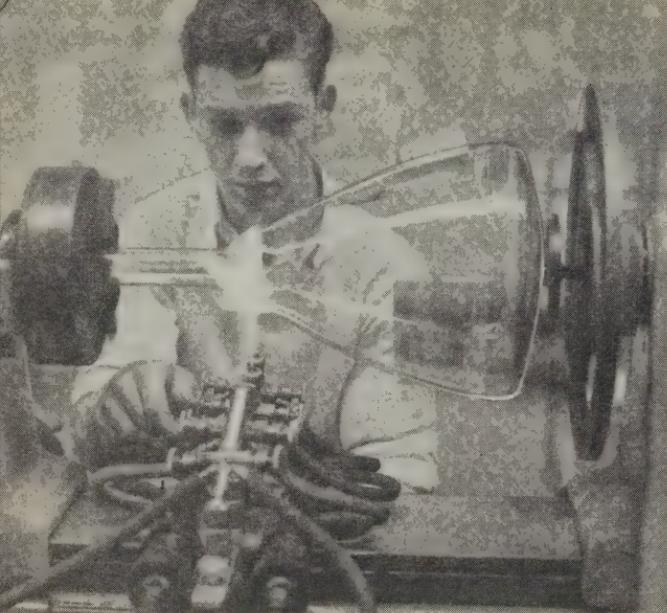
Control over the movement of workers has been possible chiefly because of the fact that, with insignificant exceptions, all employers and workers are required to use the local employment offices. No worker can resign or be fired without giving or receiving seven days' notice of separation, a copy of which goes to the local office. Similarly, no employer may interview or engage any worker and no worker may seek or accept employment unless he has a permit from the local office. Advertising for workers is also carefully controlled and employers must requisition all the labour they need from the local offices. In addition, since Sept. 20, 1943, workers in establishments designated by the Director have not been able to resign or to be fired without the written permission of a Selective Service Officer.

Considerable numbers of workers have been compelled to leave their jobs and to take essential employment elsewhere. Employers in a long list of less essential civilian industries have been ordered to discharge all men between the ages of 16 and 40 who, for medical or other reasons, are not in the Armed Forces, and these men have been assigned to essential jobs. Since Oct. 7, 1943, the Selective Service Officers have had the power to direct any person employed in any industry specified by the Director to enter other employment in another or the same industry. Men between the ages of 18 and 64 who have experience in coal-mining and all men in Nova Scotia and New Brunswick who were formerly longshoremen may be directed back to employment in the mines or on the docks, as the case may be. Any man between the ages of 16 and 64 may be directed to accept employment in cutting wood fuel, fishing or fish processing.

Special steps have been taken to make available an adequate supply of labour for the farms. No farm worker may seek or accept employment outside agriculture without a permit, except short-term employment in related seasonal industries, and former farmers have been returned to agriculture. Under agreements between the Dominion and the provinces, farm workers from one province have been moved to other provinces where they are more urgently needed. Soldiers, students, treaty Indians, prisoners of war and Japanese are used on the farms, and Mennonites, Doukhobors and conscientious objectors who are relieved from the obligation to undertake military service have been directed into agriculture.

Employment and Selective Service Offices.—In the first eight months of 1943, Employment and Selective Service Offices received 1,867,932 applications for employment, were notified of 2,120,868 vacancies and effected 1,331,482 placements. During the same period of 1942, offices of the Employment Service of Canada reported 597,690 applications for work, 425,774 vacancies and 280,392 placements.

The exceptionally heavy increases shown for the first eight months of 1943 as compared with the same period of 1942 are due to the fact that since Sept. 1, 1942,



A Graduate of a Technical High School Engaged in the Manufacture of Cathode Ray Tubes.

Courtesy, National Film Board

it has been obligatory for employers to seek workers and for workers to seek employment through the Employment and Selective Service Offices, and also for employers to report all vacancies and lay-offs to these Offices.

War Emergency Training and Youth Training

War Emergency Training has been carried on during 1943 under the Vocational Training Co-ordination Act with funds provided from the War Appropriation. Agreements are operative in all provinces, except Prince Edward Island, and provide for the training of workers for war industries as well as tradesmen for the Armed Forces.

From Jan. 1 to Aug. 31, 1943, there was a total enrolment for industrial workers of 41,368. Training was given under three main divisions:—

(1) Full-time pre-employment courses lasting from two to six months. The enrolment, which declined considerably from the previous year owing to the decreased supply of eligible trainees, was approximately 14,000, including nearly 6,000 women: 13,046 trainees from these courses were placed in employment.

(2) Part-time training, mostly of a technical nature, for persons already employed in industry, to facilitate their upgrading and promotion. Enrolment: approximately 12,000, including 2,330 women.

(3) Training in plant schools in industrial establishments. This training lasts from two weeks to three months and is given chiefly in occupations for which training cannot be given in the regular vocational schools because of the lack of specialized equipment. Up to Aug. 31, 1943, 107 plant schools had been officially approved and the enrolment was 12,641, of whom slightly over 50 p.c. were women: 8,402 persons, after completing their training, were transferred to production.

In addition, job instructor training, job relations training and job methods training were made available to foremen, supervisors, etc. The total enrolment from the beginning of 1942 to Aug. 31, 1943, was 31,466.

Up to Aug. 31, 1943, rehabilitation training was also provided under the program for 830 persons discharged from the active Armed Forces. This training is provided

in co-operation with the Department of Pensions and National Health who select the trainees, and is given in regular vocational schools, special centres, privately owned schools and industrial and commercial establishments.

In the training provided for enlisted tradesmen in the Armed Forces, the men were selected and followed a syllabus drawn up by their respective services. The courses lasted from three to eight months, those for the Navy being substantially longer than for the other services. From Jan. 1 to Aug. 31, 1943, training was given to 24,967 from the R.C.A.F., 10,589 from the Army and 3,407 from the Navy.

Youth Training for persons between 16 and 30 years of age was provided on a much reduced scale. It consisted mainly of special courses for rural young people and courses in physical training, as well as financial assistance to university students—chiefly those in medicine, dentistry, engineering and science, as well as nurses in training in hospitals—whose services might be needed in a professional or technical capacity in connection with the War.

Unemployment in Trade Unions

Monthly statistics are tabulated by the Department of Labour from reports furnished by trade unions showing the unemployment existing among their members. In the first eight months of 1943, 2,288 organizations reported an average membership of 432,170, of whom 3,879 were on an average unemployed; this was an average percentage of 0.9 compared with 2.9, 5.0 and 8.8 in the first eight months of 1942, 1941 and 1940, respectively. The percentage of unemployment declined from 1.5 in both January and February to 0.4 in the months of July and August. The trade union report was begun as a quarterly record in December, 1915, and was continued on that basis until the close of 1918. From January, 1919, to date it has appeared monthly. The percentage of 0.4 in the months of July and August, 1943, was the lowest for any month in trade union records and was identical with that shown in June, 1918, when the percentage reached the lowest point attained in any of the quarterly reports. The highest figure in these records was 25.5 p.c. for December, 1932, and for January, 1933.

Old Age Pensions and Pensions for Blind Persons

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c. of the net cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Old age pensions are also payable in the Northwest Territories. Authority was given in 1927 to the Gold Commissioner of the Yukon to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

Pensions for Blind Persons.—By an amendment to the Old Age Pensions Act, assented to Mar. 31, 1937, provision is made for the payment of pensions, under certain conditions, to blind persons who have attained the age of forty years. All

provinces have made agreements with the Dominion for the payment of pensions in respect of blindness. Under the terms of the agreements the Dominion pays 75 p.c. of the net amount paid out by the provinces for pensions. The payment of pensions in respect of blindness in the Northwest Territories has also been authorized. The maximum pension payable to old age and blind pensioners is \$300 a year, subject to reduction by the income of the pensioner in excess of certain specified amounts.

Summary of Old Age Pensions and Pensions for the Blind, 1928-43

NOTE.—The effective dates of commencement of Old Age Pensions and Pensions for Blind Persons in the various provinces were, respectively, as follows: P.E.I.—July 1, 1933, Dec. 1, 1937; N.S.—Mar. 1, 1934, Oct. 1, 1937; N.B.—July 1, 1936, Sept. 1, 1937; Que.—Aug. 1, 1936, Oct. 1, 1937; Ont.—Nov. 1, 1929, Sept. 1, 1937; Man.—Sept. 1, 1928, Sept. 1, 1937; Sask.—May 1, 1928, Nov. 15, 1937; Alta.—Aug. 1, 1929, Mar. 7, 1938; B.C.—Sept. 1, 1927, Dec. 1, 1937; N.W.T.—Jan. 25, 1929, Mar. 30, 1938.

Year ended Mar. 31—	Old Age Pensions		Pensions for the Blind	
	Pensioners	Dominion Government Contribution ¹	Pensioners	Dominion Government Contribution ¹
	No.	\$	No.	\$
1928.....	2,712	131,452	—	—
1929.....	10,588	832,687	—	—
1930.....	42,553	1,537,174	—	—
1931.....	57,930	5,658,143	—	—
1932.....	67,006	10,032,410	—	—
1933.....	71,705	11,512,543	—	—
1934.....	86,873	12,313,595	—	—
1935.....	101,051	14,942,459	—	—
1936.....	108,415	16,764,484	—	—
1937.....	146,524	21,149,352	—	—
1938.....	175,673	28,524,587	1,946 ²	128,418 ²
1939.....	181,514	28,283,284	4,512	760,354
1940.....	186,035	29,080,631	5,404	895,923
1941.....	185,946	28,901,933	5,913	1,009,767
1942.....	185,922	28,530,908	6,243	1,080,889
1943.....	183,601	28,861,186	6,374	1,114,828
Totals, Government Contributions from Inception of Act..	—	267,056,828	—	4,990,179

¹ 50 p.c. of net cost of payments to Oct. 31, 1931, and 75 p.c. thereafter.
for complete statistics, see headnote.

² First year

Old Age Pensions and Pensions for the Blind, by Provinces, as at Mar. 31, 1943

Province or Territory	Old Age Pensions		Pensions for the Blind	
	Pensioners	Average Monthly Pension	Pensioners	Average Monthly Pension
	No.	\$	No.	\$
Prince Edward Island.....	1,904	13.48	116	16.14
Nova Scotia.....	14,080	15.65	620	19.22
New Brunswick.....	11,818	15.27	722	19.67
Quebec.....	47,045	17.20	2,173	19.61
Ontario.....	57,692	18.86	1,502	19.70
Manitoba.....	12,498	18.78	348	19.72
Saskatchewan.....	13,074	17.53	320	19.86
Alberta.....	11,134	18.69	239	19.76
British Columbia.....	14,348	19.28	334	19.42
Northwest Territories.....	8	20.00	—	—
Totals.....	183,601	—	6,374	—

CHAPTER XII

Construction

Government Assistance to and Control of Construction in War-Time

Peace-time measures of the Dominion Government designed to improve housing conditions and to stimulate the building industry during the depression years preceding the War have been fitted into the requirements of war-time where possible. Where they have served their purpose or where they represented a drain on the financial, material or labour resources of the country they have been discontinued.

The National Housing Act, 1938.—The most important of these measures is the National Housing Act, which succeeded the Dominion Housing Act, 1935. The purposes of the legislation and the conditions under which loans can be made have been dealt with in previous editions of the Handbook, notably at pp. 113 and 114 of *Canada 1942*.

Men at Work on the New Six-Million Dollar DeCew Falls Power Development.

Courtesy, Hydro-Electric Power Commission of Ontario



To Aug. 31, 1943, 20,309 loans made under the Dominion Housing Act and Part I of the National Housing Act, and actually proceeded with, amounted to \$82,348,551. These loans provided a total of 24,913 family units. In the 1943-44 Estimates a further \$2,000,000 was appropriated to assist in the construction of new low-cost houses under the National Housing Act. Houses built under this appropriation must be located in areas where a shortage of permanent housing exists, upon sites having the essential services already installed. So far as possible these houses must be constructed of materials that are not essential to the war effort. Loans from this new appropriation are limited to \$3,200.

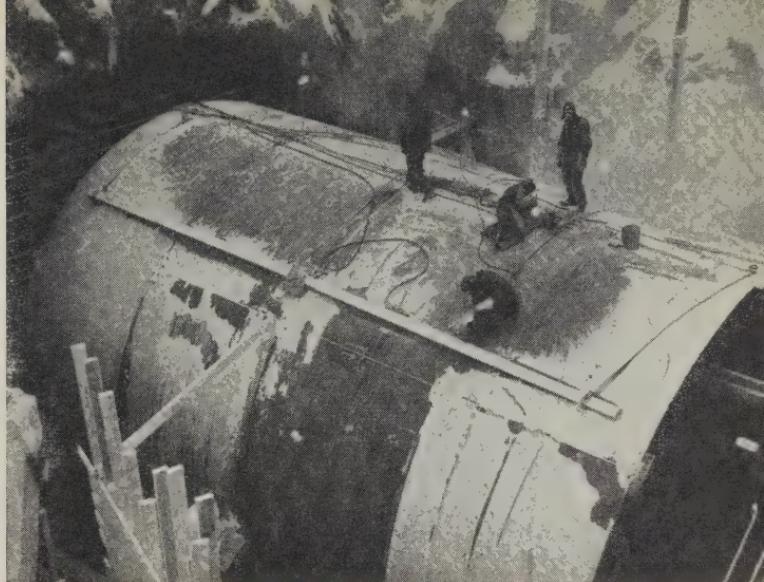
The Home Extension Plan, 1942.—To further alleviate the housing shortage, provision was made in the 1942-43 Estimates for the Dominion Government to guarantee, upon an arrangement similar to the Home Improvement Loans Guarantee Act, loans made by the chartered banks for the purpose of financing the creation of new housing units in existing dwellings. These loans, which are limited to an aggregate of \$2,000,000 with a maximum liability on the part of the Government of \$300,000, may be made only in areas designated by the Minister of Finance as those in which a housing shortage exists or impends. These loans may be made to an owner of the property or a purchaser under an agreement of sale that has been in existence for one year before the loan is granted. Approval of the proposed alterations must be obtained from the Minister. To Aug. 31, 1942, 42 loans providing 76 units and amounting to \$78,633 had been made under the plan.

Housing Conversion Plan.—As another means of supplying accommodation, the Housing Conversion Plan has been established. Under this plan the Minister of Finance is authorized to lease buildings from their owners for a period of five years with the right to renew the lease for a further period of three years. Additional housing units are then created in these buildings and sub-leased to suitable tenants. The average estimated cost per unit in each building is not to exceed \$1,500. Upon the termination of the lease, the building is returned to the owner in its then existing condition. The Minister reserves the right to cancel the lease at any time upon thirty days' notice. To Sept. 15, 1943, the plan had been brought into force at Ottawa, Vancouver, Victoria, Toronto, Montreal, Quebec City, Hamilton, St. Catharines, Brantford, and municipalities contiguous to each of these cities. It is expected that other cities will be added to this list.

Government Control of Civilian Construction Since the Outbreak of War.—Owing to the demands on materials and labour brought about by the sudden expansion of the direct war industries, it was found necessary to control new construction, repairs to buildings, expansion or replacement of existing facilities, or new installation of equipment. This control was put in force in May, 1941, by means of a licensing provision, and the control was centred under the Priorities Officer of the Department of Munitions and Supply. In August of that year a Controller of Construction was appointed. In January, 1942, this control was broadened to include the control over materials and their use.

A policy of rigid curtailment has been followed in order that construction for war purposes might have precedence. In October, 1942, it was necessary to further curtail such construction and the monetary limits under which such work or expansion of facilities could proceed without licence was drastically reduced. The lowering of the limits brought a close control on the expansion of retail and wholesale outlets, as well as the manufacturing facilities, and also governed the construction of housing.

Welding the Plates of a Tunnel Liner.—This liner, one inch thick, is pushed up the tunnel to form a link between the rock of the tunnel and the 'penstocks' in a hydro-electric development project.



Courtesy, National Film Board

In 1943, a branch of the control was instituted to ensure that all construction be carried out in the most economical method in regard to the supply of materials.

Construction for War Purposes.—Construction related to Canada's war effort may be divided into the following groups:—

- (1) Building of defence projects for the Air Force: (a) aerodromes and training schools under the British Commonwealth Air Training Plan; (b) development of Canada's Home War Establishment for Air; (c) Royal Air Force Schools in Canada.
- (2) Building of army defence projects.
- (3) Construction of naval projects, including harbour installations.
- (4) Construction of new industrial plants and plant extensions involving Government capital assistance.
- (5) Provision of necessary housing incidental to industrial expansion for war purposes.

Most contracts under groups (1) to (3), as well as some contracts under (4) are awarded by the Construction Branch of the Department of Munitions and Supply. For the calendar year 1942 the value of these contracts, 1,733 in number, amounted to \$172,490,448, as compared with 1,208 contracts aggregating \$97,538,743 in 1941, and 756 contracts totalling \$85,154,764 in 1940. For the calendar year 1943 an estimated 1,200 contracts will be awarded aggregating \$105,000,000.

Contracts under (5) are let by Wartime Housing Limited, a Crown company, established under the Department of Munitions and Supply for the purposes specified. Such housing expenditures to Dec. 31, 1942, amounted to \$39,730,590. It is estimated that Wartime Housing expenditures in 1943 will amount to approximately \$20,000,000. Total Government expenditures on construction amounted to \$260,000,000 for 1942 compared with \$189,000,000 for 1941.

General Statistics of Construction

Annual Census of the Construction Industries.—A census of construction was first made by the Dominion Bureau of Statistics for 1934, but the basis of compilation was not standardized until 1935, so that, with the compilation of the 1936 figures, data are now available on a comparative basis for the years shown in the table on p. 155.

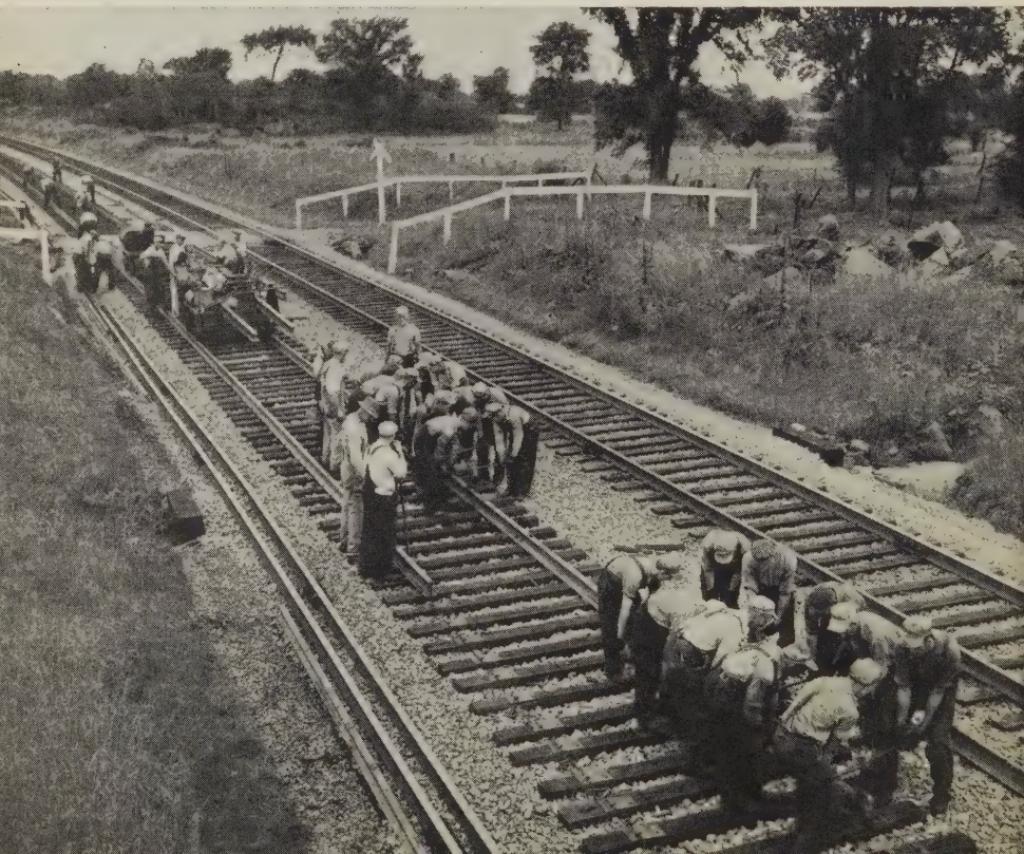
It should be pointed out that no relationship exists between these figures and those of values of contracts awarded as shown on p. 156. In the latter case all values are included since awards are made irrespective of whether the contract is completed or even begun in that year, whereas the industrial statistics show only the work performed in the years specified.

Since September, 1939, war construction has shown rapid expansion. The increase has been most marked in industrial, military and air services construction. Large war contracts let in the latter part of 1939 would not, ordinarily, be under way before 1940 and a similar lag—not quite so long perhaps—would follow later contracts. The vast amount of Government construction going on across Canada, apart from the indirect stimulus to private construction that rising costs have encouraged, has meant wide activity for this industry, which had suffered severely throughout the depression and the recovery of which has lagged behind other branches.

Of the 1942 total value of work performed, 77 p.c. was represented by entirely new construction. The remainder was for alterations, repairs, maintenance, etc. With regard to type of construction buildings accounted for 55 p.c. compared with 59 p.c. in 1941 and engineering contracts (such as for streets, highways, harbour and river work, etc.) accounted for 34 p.c. as compared with 31 p.c.

Sectionmen Replacing a 100-Pound Rail.—There are 271 rails to a mile of track, and laying one mile per day is no meanfeat.

Courtesy, Canadian National Railways



CONSTRUCTION

Statistics of the Construction Industry, 1942, with Totals for 1937-41

Province or Group	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed
	No.	\$	\$	\$
Totals, 1936	142,346	112,846,384	122,189,238	258,040,400
Totals, 1937	151,652	150,637,291	175,844,435	351,874,114
Totals, 1938	147,191	147,405,398	176,562,208	353,223,285
Totals, 1939	148,414	153,442,443	189,497,342	373,203,680
Totals, 1940	149,830	180,229,498	267,228,786	474,122,778
Totals, 1941	176,358	235,631,781	370,188,739	639,750,624
Province, 1942				
Prince Edward Island	388	502,066	749,447	1,468,348
Nova Scotia	18,715	19,571,153	29,238,099	54,259,398
New Brunswick	4,743	5,972,713	7,831,286	14,194,800
Quebec	60,449	94,031,142	94,610,394	205,400,748
Ontario	57,144	86,854,556	119,386,879	217,829,022
Manitoba	5,626	8,295,036	12,546,655	22,091,947
Saskatchewan	4,032	5,647,247	7,478,755	15,602,922
Alberta	7,214	10,931,748	16,481,229	33,389,725
British Columbia and Yukon	16,956	30,237,810	36,409,636	71,412,660
Totals, 1942	175,267	262,043,471	324,732,380	635,649,570
Group, 1942				
Contractors, builders, etc.	141,234	226,641,122	308,185,527	575,215,433
Municipalities	10,048	12,429,116	5,978,043	19,608,132
Harbour Commissions	711	926,543	412,055	1,454,960
Provincial Govt. Depts.	20,526	18,430,087	8,381,407	33,157,163
Dominion Govt. Depts.	2,748	3,616,603	1,775,348	6,213,882

As shown in the following figures, the construction of industrial buildings declined 10.33 p.c. in 1942 as compared with 1941. Residential building declined 12.83 p.c.

Values of Construction, by Types, 1942 as Compared with 1941

Type of Construction	1942	1941	Increase or Decrease
	\$	\$	\$
Residential	76,346,090	87,586,340	-11,240,250
Institutional	14,246,025	15,174,464	-928,439
Commercial	30,638,095	41,157,146	-10,519,051
Industrial (includes factories, warehouses, mine buildings, etc.)	159,346,630	177,698,268	-18,351,638
Other (includes armouries, barracks, hangars, etc.)	71,197,840	52,874,955	+18,322,885
Totals, Building Construction	351,774,680	374,491,173	-22,716,493
Streets, highways, etc.	59,619,536	68,358,529	-8,738,993
Bridges, watermains, sewers, dams, reservoirs, etc.	34,044,730	40,490,146	-6,445,416
Electric stations and transmission lines	60,697,808	37,090,038	+23,607,770
Docks, wharves, piers, etc.	10,099,471	6,475,872	+3,623,599
Other engineering (includes landing fields, parks, canals, dredging, pile driving, etc.)	52,817,517	48,241,454	+4,576,063
Totals, Engineering	217,279,062	200,656,039	+16,623,023
Totals, Building Trades	66,595,828	64,603,413	+1,992,415
Grand Totals	635,649,570	639,750,625	-4,101,055

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given at p. 155 and are therefore summarized here. For steam railways expenditures for these purposes in 1942 amounted to \$219,276,767 as against \$178,359,319 in 1941 and \$194,000,000 in 1929. For electric railways the total for 1941 was \$7,532,510 as against \$5,424,539 in 1940 (1942 figures were not available at time of going to press). Expenditures of steam railways for additions and betterments (exclusive of equipment) were \$6,418,260 in 1942 compared with \$9,031,067 in 1941.

Volume of Construction, 1943.—The recovery in construction, on the whole, has not paralleled that indicated in many other industries, although substantial improvement has been reported recently. According to the records of the construction contracts awarded, as maintained by MacLean Building Reports, Limited, the value rose from \$162,588,000 in 1936 to \$224,056,700 in 1937, dropped to \$187,178,500 in 1939, rose to \$346,009,800 in 1940 and \$393,991,300 in 1941, and dropped to \$281,594,100 in 1942 and reached \$194,114,600 for the first eleven months of 1943.

Construction Contracts Awarded in Canada, 1942 and 1943

(MacLean Building Reports, Limited)

Type of Construction	1942		1943 ¹	
	No.	Value	No.	Value
	\$		\$	
Apartments.....	67	868,200	77	786,900
Residences.....	29,823	78,411,600	28,114	74,181,700
Totals, Residential.....	29,890	79,279,800	28,191	74,968,600
Churches.....	172	1,250,700	267	1,142,100
Public garages.....	253	959,200	277	1,197,600
Hospitals.....	141	5,037,600	142	4,431,300
Hotels and clubs.....	293	5,211,300	257	2,220,400
Office buildings.....	468	5,090,300	472	2,495,800
Public buildings.....	988	65,856,300	728	29,372,800
Schools.....	233	3,261,200	402	4,155,300
Stores.....	992	2,994,600	599	1,627,400
Theatres.....	55	302,200	61	231,200
Warehouses.....	1,252	8,201,400	3,855	9,314,200
Totals, Business.....	4,847	98,164,800	7,060	56,188,100
Totals, Industrial.....	1,639	74,084,500	1,772	31,029,300
Bridges.....	67	1,351,200	70	2,012,000
Dams and wharves.....	64	6,950,900	73	3,422,100
Sewers and watermains.....	229	3,567,800	153	1,617,300
Roads and streets.....	313	12,414,200	247	10,662,200
General engineering.....	120	5,780,900	82	14,215,000
Totals, Engineering.....	793	30,065,000	625	31,928,600
Grand Totals.....	37,169	281,594,100	37,648	194,114,600

¹ Eleven month figure

The Dominion Bureau of Statistics collects monthly statistics showing the anticipated cost of the building represented by the permits taken out in 58 cities, the record going back to 1920. The value of such work was \$55,949,687 for the first eleven months of 1943, as compared with \$70,237,650 for the same period of 1942.

The population of the 58 centres mentioned constituted about 36 p.c. of the total population; for Jan. 1 to Nov. 1, 1943, their building authorizations amounted to 29 p.c. of the total value of the construction contracts awarded for the same period throughout Canada.

CHAPTER XIII

External Trade

The trade of Canada for 1940, the first full year of the War, showed a pronounced jump from pre-war levels, both imports and exports registering marked increases. This trend was continued during 1941, when total trade was greater than ever before. In 1942 the accelerated rate of growth carried the figure to a value of over \$4,000,000,000, almost \$1,000,000,000 over 1941. Imports exceeding those of 1941 by \$195,000,000 and exports by \$745,000,000. An estimated total trade of \$4,500,000,000 was reached in 1943 (see chart on next page).

During 1942 per capita imports amounted to \$142.89 and per capita exports reached \$205.43. These amounts compare with averages for the ten years preceding the War, of \$59.50 for imports and \$69.58 for exports.

	<i>Imports</i>	<i>Domestic Exports</i>	<i>Total Trade</i>
1938.....	\$ 677,451,354	\$ 837,583,917	\$ 1,526,135,487
1939.....	751,055,534	924,926,104	1,686,977,247
1940.....	1,081,950,719	1,178,954,420	2,275,168,311
1941.....	1,448,791,650	1,621,003,175	3,089,246,191
1942.....	1,644,241,933	2,363,773,296	4,029,707,979
1943 (8 months)...	1,139,702,053	1,874,269,155	3,029,435,464

Army Truck Chassis Awaiting Shipment.

Courtesy, National Film Board



000,000,000

AGGREGATE EXTERNAL
MERCHANDISE TRADE
OF
CANADA
1925 - 1943

4

3

2

1

0

TOTAL
including
Foreign Exports

DOMESTIC
EXPORTS

IMPORTS

* Estimated for 1943

1925

1930

1935

1940

'43

Imports.—Actually, imports in the latest year showed a slackening of the rate of increase. During the years preceding 1942 the necessity of conservation of foreign exchange was overshadowed by the demand for machines, machine-tools, dies, etc., and other equipment and materials basic to all-out war production in Canada. The increases of imports of \$331,000,000 for 1940 compared with 1939, and \$367,000,000 for 1941 compared with 1940 reflect this demand. Since in 1942 industrial production had not reached maximum proportions, it is logical to assume that the smaller expansion in 1942 indicates that tooling-up and expansion of industry have passed the peak and that present and future requirements can more nearly be supplied by Canadian production. Furthermore, a study of the trend of imports during the first eight months of 1943 reveals a levelling-off at about \$150,000,000 per month. Imports of \$1,140,000,000 during this period compare with a value of \$1,114,000,000 during the corresponding period of 1942.

Exports.—The increase in exports was much more rapid during 1942 than in previous years. The increase for 1940 compared with 1939 was \$254,000,000 and for 1941 compared with 1940 amounted to \$443,000,000, whereas 1942 recorded an increase of \$743,000,000 over 1941. Owing to censorship regulations, it is impossible to study the breakdown of this trade by commodities, but there is no doubt that the acceleration of export shipments is a clear indication of the volume reached in the production of arms and munitions of war. Available statistics for the first eight months of 1943 disclose the fact that the upward trend of exports has been continued. From January to August, inclusive, domestic exports amounted to \$1,874,000,000, an increase of more than \$400,000,000 over the same period of 1942.

A study of the favourable balance of commodity trade (excess of exports over imports) further emphasizes the rapid expansion of export shipments. This balance amounted to \$111,000,000 in 1940; \$192,000,000 in 1941; and to \$741,000,000 in 1942, and has already reached \$750,000,000 during the first eight months of 1943. During the month of July, 1943, exports attained the all-time record value for one month of over \$303,000,000, reflecting the increasing scale of operations of the Allied armies as well as the high volume of war production attained by Canadian industry. The movement of war supplies, foodstuffs and essential civilian goods has no doubt been greatly facilitated by the increased output of merchant vessels and the subsidence of the submarine menace.

Analysis of Trade with the United Kingdom and the United States.—As in all previous years the great bulk of Canada's trade in 1942 was with the United Kingdom and the United States. Imports from the United Kingdom fell off sharply from 1941 owing, no doubt, to a slackening in shipments of equipment for R.A.F. training schools, war factories, etc. On the other hand, imports from the United States continued to rise, reflecting the demand for materials necessary for the continually expanding war production.* Trade with South America declined from the high level of 1941, but was still maintained well above the figures for the immediate pre-war years. Imports from other parts of the world remained about the same, whereas exports to countries other than the United Kingdom and the United States more than doubled in 1942 as compared with 1941, reaching a total of \$736,000,000. This was made up, to a large extent, of motor transports, fighting vehicles, guns, ammunition and war materials shipped to every theatre of war.

* For the first time since 1939, exports to the United States exceeded those to the United Kingdom. Here again censorship restrictions do not allow a study of the detail comprising this trade. However, it is a clear indication that Canada is playing an ever increasing part in the arming and supplying of the Armed Forces of the United Nations.

	<i>Imports</i>		<i>Exports (Domestic)</i>	
	<i>U.K.</i>	<i>U.S.</i>	<i>U.K.</i>	<i>U.S.</i>
1938.....	119.3	424.7	339.7	270.5
1939.....	114.0	496.9	328.1	380.4
1940.....	161.2	744.2	508.1	443.0
1941.....	219.4	1,004.5	658.2	599.7
1942.....	161.1	1,304.7	741.7	885.5
1943 (8 mos.).....	90.4	933.3	686.2	703.9

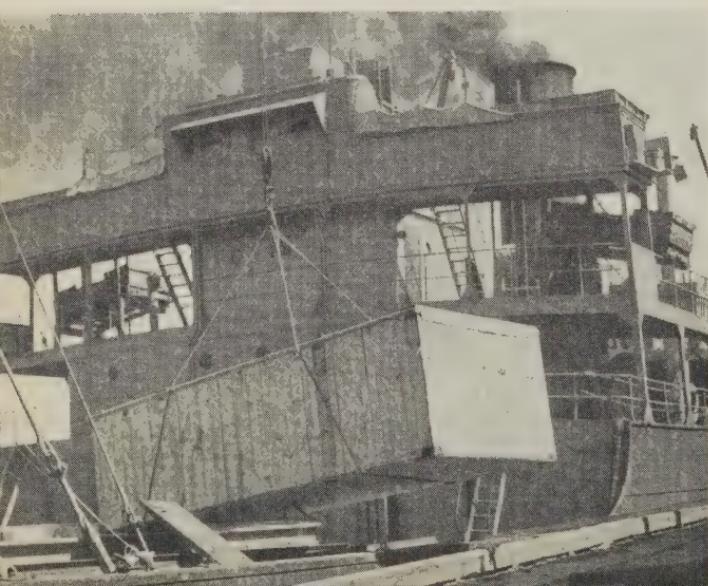
Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions.

The Tourist Trade

The tourist trade is normally a substantial source of external revenue to Canada and is particularly important to certain sections of the country. Tourist expenditures are, in part, the return that Canada derives from scenic attractions, fish and game, winter sports activities and other attractions. As a large part of the traffic usually travels from the United States to Canada by motor-car, the curtailment in the use of automobiles in recent years has had the effect of reducing the volume of international expenditures. The effects of the decline in motor traffic were most pronounced in 1942, when total expenditures in Canada of travellers from other countries were estimated at \$81,000,000 compared with \$111,000,000 in 1941. The expenditures of automobile tourists dropped more in proportion since expenditures of persons travelling by rail increased in 1942. This total of expenditures in Canada in 1942 compares with pre-war levels indicated by revised estimates of \$166,000,000 in 1937, \$149,000,000 in 1938 and \$149,000,000 in 1939.

Expenditures of Canadians abroad, involving the use of United States dollars, have been sharply reduced as a result of official restrictions on pleasure travel intro-



Armoured Vehicles Form
a Large Part of
Canadian Exports.

*Courtesy, National
Film Board*

duced in July, 1940, in order to conserve foreign exchange. Overseas travel has also declined with the War. In 1942, total expenditures of Canadians outside of Canada are estimated at \$26,000,000 compared with \$21,000,000 in 1941 and pre-war expenditures estimated at \$87,000,000 in 1937.

Greatly increased information on travel expenditures, resulting from new methods introduced in 1940 and 1941, have facilitated and improved the measurement of tourist expenditures. Estimates for the years from 1940 to 1942 are a result of the new procedure, while the estimates for 1937, 1938 and 1939 were made by relating the increased information on expenditures obtained in recent years to the volume of traffic in the pre-war years. It is believed that these pre-war estimates are now fairly representative of expenditures before the War. It should be noted that the new estimates for the pre-war years point to much lower levels of expenditures, particularly in the case of expenditures of United States travellers in Canada, than the estimates originally published.

Expenditures of Foreign Travellers in Canada and Canadian Travellers Abroad, 1941 and 1942

Class of Traveller	1941			1942		
	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Travellers from and to overseas countries.....	4,000	2,750	1,250	2,900	3,300	-400
Travellers from and to the United States—						
Automobile.....	54,000	3,750	50,250	26,000	2,600	23,400
Rail.....	28,000	8,500	19,500	32,000	13,900	18,100
Boat.....	7,000	700	6,300	4,000	500	3,500
Bus (exclusive of local bus).....	7,000	1,500	5,500	6,000	2,600	3,400
Aeroplane.....	3,000	1,200	1,800	3,000	1,100	1,900
Other (pedestrians, local bus, etc.).....	8,000	2,600	5,400	8,000	3,700	4,300
Totals, United States.....	107,000	18,250	88,750	79,000	24,400	54,600
Totals, All Countries.....	111,000	21,000	90,000	81,900	27,700	54,200

The Canadian Balance of International Payments, 1942*

Most of the more striking effects of the War on the Canadian balance of payments, which first appeared in the 1940 statement, were accentuated in the statement for 1941 and are even more so in that for 1942 (p. 165). Gross credits on current account were the highest on record, being \$3,384,000,000. Gross debits of \$2,275,000,000 were at a record level, too, although the increase was less than in the case of credits. Consequently, the net balance on current account transactions with all countries increased very sharply. These impressive proportions are, of course, related to the great growth in national income that has taken place.

* The Canada Year Book 1943-44, which will appear in July, 1944, will present a detailed review of the transactions on both current and capital account. The interested reader is referred to that publication. The report on Canadian Balance of International Payments 1937-42, published by the Dominion Bureau of Statistics, deals with the entire subject in still more detail and is obtainable from the Dominion Statistician, price 25 cents.

From the point of view of exchange and finance the balance of payments is divided into two clearly defined divisions: the balance of payments between Canada and the sterling area, and the balance of payments between Canada and the rest of the world with which Canada's dealings are on a United States dollar basis. Because of conditions arising from the War, Canada's balance of sterling income over disbursements is no longer freely convertible into United States dollars whereas, before the War, sterling balances were employed in part to cover the deficit in United States dollars. Accordingly, separate statements are shown for transactions with Empire countries and non-Empire countries. In so far as is possible, the statement for Empire countries represents the sterling area and the statement for non-Empire countries represents the United States dollar area. In the case of the balance of payments with the sterling area there has been a greatly expanded surplus of current credits over debits, while in the balance of payments with the United States dollar area there was, in 1940 and 1941, a growing net deficit on current account, which, however, declined in 1942.

Current Transactions with the Sterling Area.—There was a net credit on current account with the sterling area of \$1,277,000,000 in 1942 compared with \$805,000,000 in 1941, \$419,000,000 in 1940 and \$176,000,000 in 1939. The principal contributing factor was the expenditure by the British Government on war equipment, food and materials produced in Canada. The value of exports to the sterling area, including certain prepayments for goods in the process of production in 1942 increased from \$436,000,000 in 1939 to \$1,549,000,000 in 1942. These figures exclude exports on Canadian account such as equipment for the Canadian Army in the United Kingdom. Imports of merchandise from the sterling area increased only moderately, being \$177,000,000 in 1939 and \$226,000,000 in 1942. Most of the increase was from Empire countries other than the United Kingdom.

"Interest and dividend payments" and "all other current transactions" both produced substantial net debits. Interest and dividends paid on British investments in Canada decreased in 1942, mainly because of the reductions in interest paid on Canadian bonds repatriated from the United Kingdom. The item "all other current transactions" shows an excess of debits over credits of \$80,000,000. The expenditures of the Dominion Government in connection with the maintenance of the Canadian Armed Forces overseas constitutes the bulk of the debits in this item. Among the principal credits in this item are the expenditures on air training in Canada by the British, Australian and New Zealand Governments and other expenditures by Allied Governments on services in Canada connected with the War. The expenditures of Canadian travellers in other parts of the Empire and of Empire travellers in Canada offset each other.

Current Transactions with the United States Dollar Area.—Canada's debit balance on current account with the United States dollar area was \$50,000,000 in 1939, \$270,000,000 in 1940, \$314,000,000 in 1941 and \$168,000,000 in 1942. The debit balance with the United States alone amounted to \$116,000,000 in 1939, \$292,000,000 in 1940, \$318,000,000 in 1941 and \$180,000,000 in 1942. The pre-war credit balance on current transactions with other foreign countries shrank from \$66,000,000 in 1939 to \$22,000,000 in 1940 and to \$4,000,000 in 1941 but rose to \$12,000,000 in 1942.

The principal factor in the growth of the debit balance with the United States dollar area has been the great expansion in imports of merchandise. Such imports from the United States increased from \$472,000,000 in 1939 to \$702,000,000 in 1940,



The Loading and Shipping Wharves at a Nova Scotia Port.—Note the freight cars drawn alongside the ship at the right. The Atlantic ports of Canada are operating at capacity, shipping overseas the large quantities of munitions and foodstuffs that Canadian industry is producing for the Allied Nations.

Courtesy, Dominion Steel and Coal Company

\$910,000,000 in 1941 and \$1,116,000,000 in 1942. Most disbursements of United States dollars are for aircraft, for materials, fuel, capital equipment and component parts required for the war-production program, although there have been increased demands for civilian goods from the United States resulting from the high level of incomes.

Exports to the United States dollar area increased from \$470,000,000 in 1939 to \$503,000,000 in 1940, \$634,000,000 in 1941 and \$974,000,000 in 1942. The increase in exports to the United States alone was greater than this rise, owing to the loss of European and Oriental markets, and therefore of exports, to "other foreign countries". The great increase in exports in 1942 is principally a result of transactions under the agreements entered into between the Canadian Prime Minister and the President of the United States at Hyde Park in April, 1941. Exports resulting from the agreements first became substantial in 1942 when deliveries of munitions, metals and other war produce rapidly expanded. The Hyde Park element in the total exports to the United States is covered by the cash received for deliveries of production rather than the value of exports, since the goods themselves were not all shipped to destinations in the United States.

The \$184,000,000 received from net exports of non-monetary gold in 1942 compares with \$204,000,000 received in 1941. Net receipts from the tourist trade were \$55,000,000 in 1942 compared with \$90,000,000 in 1941. Most of this decline resulted from smaller expenditures by United States tourists in Canada and reflects the contraction in automobile travel. Net payments on account of freight and shipping increased sharply from \$65,000,000 in 1941 to \$85,000,000 in 1942. The principal factor in this growth was the large increase in ocean shipping costs brought about by the sharp rises in shipping and war risk insurance rates.

All other current transactions gave rise to a credit balance in 1942 because of war-time factors in contrast to debit balances in preceding years.

The Chief Features of Capital Transactions.—It is impossible in the space available to deal with these transactions in the same detail as with current transactions. The aim is to draw attention to the outstanding influences. In the case of the sterling area the principal transactions have been inter-governmental.

The principal means adopted by the Canadian Government of financing the residual needs of the United Kingdom on current and capital accounts was the billion-dollar gift to the Government of the United Kingdom. With this contribution of funds the British supply of dollars from other sources was supplemented so that British purchases in Canada would not be limited by a shortage of dollars. Consequently, the British Government was enabled to purchase munitions, raw materials and food, and to make other expenditures necessary for the prosecution of the War. In addition to the billion-dollar contribution, other Dominion Government transactions also had the effect of increasing the United Kingdom's supply of Canadian exchange. Among these were the official repatriations by Canada of Dominion and Canadian National Railway issues held in the United Kingdom. This alone resulted in the transfer of \$296,000,000 to the United Kingdom; miscellaneous payments to adjust previous transactions amounted to \$74,000,000, and a special purchase of gold resulted in the transfer of an additional \$23,000,000 to the United Kingdom. There were also capital debits of \$700,000,000, reflecting the conversion of the major part of the accumulation of sterling balances into a special loan to the United Kingdom in 1942. The accumulation of these sterling balances by the Foreign Exchange Control Board in 1940 and 1941 was the principal means of meeting the requirements of the United Kingdom up until 1942.

Transactions with non-Empire countries are more directly affected by exchange control which has imposed restrictions on the export of capital from Canada. The outstanding features in the capital account with this area in 1942 were the unusually heavy imports of capital arising from the purchase of outstanding Canadian securities by United States investors, and the receipt of certain prepayments and capital advances arising out of the Hyde Park Agreements.

Estimated Canadian Balance of International Payments, 1941 and 1942
(Millions of Canadian dollars)

Item	1941 ¹			1942 ²		
	Credits	Debits	Net	Credits	Debits	Net
I. CANADA AND ALL COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment	1,732	1,264	+ 468	2,523	1,406	+1,117
Net exports of non-monetary gold	204	—	+ 204	184	—	+ 184
Tourist expenditures	111	21	+ 90	81	26	+ 55
Interest and dividends	60	286	— 226	67	270	— 203
Freight and shipping	185	167	+ 18	221	228	— 7
All other current transactions	166	229	— 63	308	345	— 37
TOTALS—Current Account	2,458	1,967	+ 491	3,384	2,275	+1,109
Special gold transactions ³	—	—	—	23	23	—
Capital movements	566	1,063	— 497	1,235	1,341	— 106
Billion dollar contribution	—	—	—	—	1,000	—1,000
Balancing item ⁴	6	—	+ 6	—	3	— 3
II. CANADA AND EMPIRE COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment	1,098	279	+ 819	1,549	226	+1,323
Tourist expenditures	3	3	—	2	2	—
Interest and dividends	5	68	— 63	7	51	— 44
Freight and shipping	119	36	+ 83	127	49	+ 78
All other current transactions	96	130	— 34	149	229	— 80
TOTALS—Current Account	1,093	359	+ 734	1,641	434	+1,207
United Kingdom	1,093	359	+ 734	1,641	434	+1,207
Other Empire Countries	228	157	+ 71	193	123	+ 70
All Empire Countries	1,321	516	+ 805	1,834	557	+1,277
Special gold transactions ³	—	—	—	—	23	— 23
Capital movements	181	990	— 809	884	1,129	— 245
Billion dollar contribution	—	—	—	—	1,000	—1,000
Balancing item ⁴	4	—	+ 4	—	9	— 9
III. CANADA AND NON-EMPIRE COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment	634	985	— 351	974	1,180	— 206
Net exports of non-monetary gold	204	—	+ 204	184	—	+ 184
Tourist expenditures	108	18	+ 90	79	24	+ 55
Interest and dividends	55	218	— 163	60	219	— 159
Freight and shipping	66	131	— 65	94	179	— 85
All other current transactions	70	99	— 29	159	116	+ 43
TOTALS—Current Account	1,045	1,363	— 318	1,461	1,641	— 180
United States	92	88	+ 4	89	77	+ 12
Other Foreign Countries	1,137	1,451	— 314	1,550	1,718	— 168
Special gold transactions ³	—	—	—	23	—	+ 23
Capital movements	385	73	+ 312	351	212	+ 139
Balancing item ⁴	2	—	+ 2	6	—	+ 6

¹ Revised figures.

² Preliminary.

³ This represents gold received from the United Kingdom in part settlement of her deficiency with Canada, and used in turn to settle part of Canada's deficiency with the United States.

⁴ This balancing item reflects possible errors and the omission of certain factors that cannot be measured statistically, such as changes in the timing of payments for goods and services.

CHAPTER XIV

Internal Trade—Prices—Cost of Living

Internal Trade

The task of providing goods and services for home consumption by 11,506,655 (1941 Census) people requires a greater expenditure of economic activity than that required for the prosecution of external trade, though Canada now ranks third among trading countries of the world. Internal trade includes the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It also includes all services such as those carried on by doctors, theatres, hospitals, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

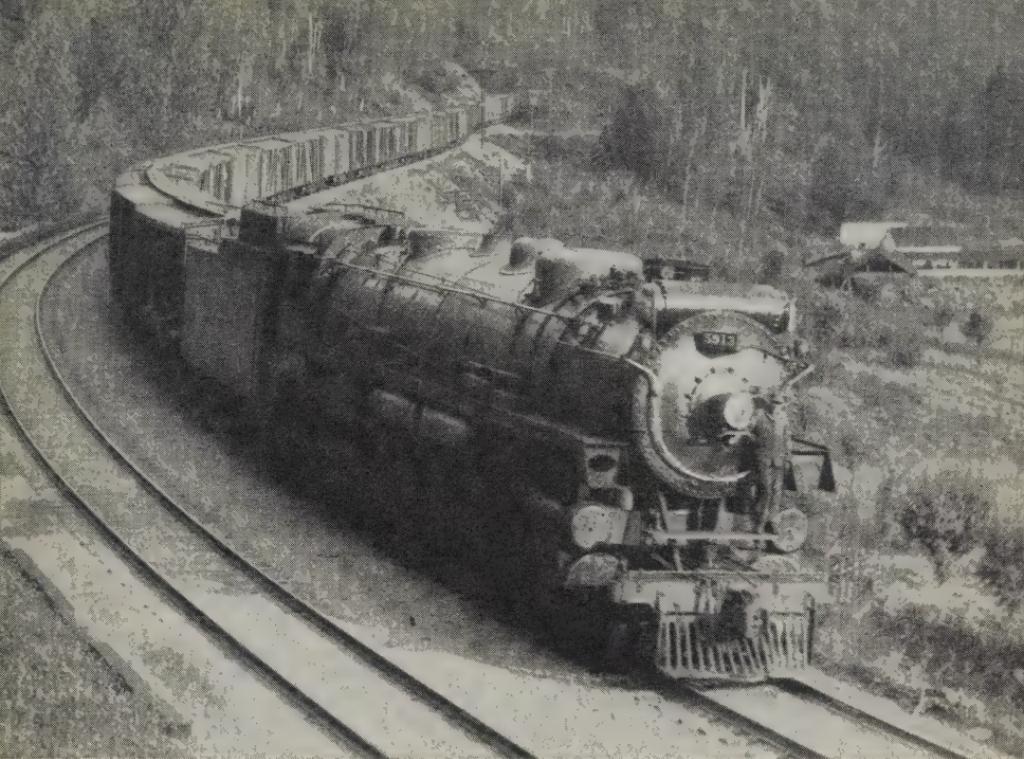
Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that in the latest year for which figures have been published (1942), the national income arising from productive operations in Canada was estimated at \$7,500,000,000 while the value of exports of Canadian produce (excluding gold) though proportionately very much higher than normal was \$2,364,000,000 in that year.

Wholesale Trade

Complete statistics covering the activities of wholesalers during recent years are not available, but results of annual and monthly surveys based on a sampling plan serve to give some indication of the trend in sales. Conforming with the trend in other spheres of economic activity, sales of wholesale merchants, the dollar volume of which exceeded \$3,300,000,000 in 1930, had declined 34 p.c. by 1933. Apart from a slight reversal in 1938, the trend since 1933 has been upward, sales for 1939 reaching the 1930 level and 1940 showing a gain of 11 p.c. over 1939. This upward movement continued in 1941 when an increase of 18 p.c. over 1940 was recorded. Sales in 1942 averaged 10 p.c. higher than in 1941, a decline in the automotive equipment trade and a minor gain of 3 p.c. in the hardware trade serving to modify more substantial gains in other lines. Wholesale trading continued to expand during the first half of 1943, although at a lesser rate; sales for the first half of the year averaged 6 p.c. higher than in the corresponding period of 1942.

Retail Trade

The final stage in the distribution of consumer goods is effected through a great number of retail stores ranging in size from small shops, with meagre daily takings, to large enterprises, whose annual sales are reckoned in millions of dollars. Two complete surveys of retail trading establishments in Canada have been made, one relating to the year 1930 and the other forming part of the Decennial Census of 1941 and covering the business transacted in that year. Comparisons of the results for the two periods serve to indicate the changes that have taken place in the marketing structure of the country during the past decade.



War-Time Freight has the Right-of-Way over all other Goods.

Courtesy, Canadian Pacific Railway

Preliminary results of the 1941 Census of Merchandising show that there were 131,474 stores with sales amounting to \$3,311,143,800, increases of 12 p.c. in number of retail outlets and 22 p.c. in value of sales over 1930 being recorded. A marked increase in the business of stores selling both grocery and meat products, classified for census purposes as combination stores, forms an outstanding feature revealed by a comparison of the results for the two years. There were 6,155 such stores with sales amounting to \$297,261,300 in 1941, compared with 5,162 stores with sales amounting to \$161,704,100 in 1930. This increase represents, in some degree, the development of grocery stores into retail outlets of the combination type. The more pronounced increase in volume of sales than in number of businesses reflects also the shift towards larger stores by the chain companies and the development of larger outlets of the super-market type.

Major increases in the variety-store type of business, the restaurant trade, the automotive trade generally, and the filling-station business in particular, are other important recent developments in Canada's retail trade. There were 5,503 filling stations with sales amounting to \$66,449,300 in Canada in 1930, while in 1941 the number of stations had increased to 9,581 and the volume of business had risen to \$148,914,800. Although changes in definition and methods of classification are factors to be considered in these comparisons, it is apparent that there was a marked increase both in the number and value of business of gasoline filling-stations between 1930 and 1941.

Chain Stores.—Although there have been shifts between chains and independents within individual trades, the relative position of the chain store in the over-all retail trade of Canada has varied but little during the past ten years. Results of the 1941 Census of Merchandising show that there were 535 companies, each with four or more stores and classified as chains, and that these companies operated a total of 8,009 stores with a volume of business amounting to \$648,605,600, an amount which formed 19.6 p.c. of the total retail trade of the country. In 1930 the corresponding ratio was 18.3 p.c.

Current Trends.—Although the dollar volume of consumer expenditure at retail stores is still at a high level, the rate of gain as measured by percentage increases over corresponding periods of earlier years has slackened greatly. Retail sales for the first six months of 1943 averaged less than 5 p.c. above the corresponding period of 1942, whereas similar comparisons for preceding years reveal increases of 17 p.c. in 1942 over 1941, 16 p.c. in 1941 over 1940, and 11 p.c. in 1940 over 1939. Direct comparison between the first half of 1943 and the corresponding period of 1939 shows an increase of 58 p.c. About 40 p.c. of this increase in dollar volume may be attributed to higher prices, while the remaining 60 p.c. represents an increase in the physical quantity of goods purchased.

Current trends in retail purchasing are not uniform for all trades. Volume of sales for restaurants, drug stores, women's specialty shops, and specialty shoe shops continued to expand in the first half of 1943 while sales of stores specializing in durable consumer goods such as hardware, furniture, radios, and household appliances were less than in the first half of 1942.

Retail Services

In addition to the more than 131,000 retail merchandise stores in operation in 1941, there were 45,173 service establishments recorded in the results of the Census of Merchandising and Service Establishments and these had total receipts of \$223,952,300 in the census year. These figures cover a wide range of establishments of various types, located generally in the retail marketing sections of urban areas and whose revenue represents receipts from services rendered rather than the sale of merchandise. Professional services, transportation services, and services related directly to the building trades, masonry, plumbing, etc., are not included.

The provision of amusement and personal services of various kinds form a large proportion of the totals. Included in the personal services group are 14,117 barber shops, beauty parlours, or combined barber shops and beauty parlours with total receipts of \$25,735,300. Included in the amusement group are 1,244 motion-picture theatres with box-office receipts (exclusive of taxes) amounting to \$41,569,300. Preliminary figures for 1942 reveal a further expansion in motion-picture attendance and receipts. Admissions to motion-picture houses in 1942 numbered 179,611,306, while receipts (exclusive of taxes) amounted to \$46,930,278, an increase of 13 p.c. over the business recorded in the census year.

Co-operative Associations

Members of farmers' co-operatives in Canada are doing their part in supplying the working population, the Armed Forces at home and abroad, and Great Britain with urgently needed food products. For the year ended July 31, 1942, in comparison

A Retail Butcher Store in a Large City.

Courtesy, National Film Board



with 1941 the value of live-stock marketings increased from \$26,000,000 to \$40,000,000, dairy products from \$24,000,000 to \$39,000,000, fruits and vegetables from \$11,000,000 to \$15,000,000, and poultry and eggs from \$4,500,000 to \$7,000,000. Improvement in price accounts, in part, for these increases, but it is safe to say that the physical volume of the marketings has increased by 25 p.c. According to reports received in the year 1942, a record in co-operative activity has been established in Canada. For the first time in the past eleven years, reported membership has exceeded 500,000 and total business has passed the \$250,000,000 mark. Reserves and surplus, which reached a high point of \$46,000,000, and an improved working capital position, indicate that expansion of co-operatives has been accompanied by a strengthening of their whole financial structure.

In Canada early expansion of co-operative activity took place most rapidly and to the greatest degree in the marketing of farm products. Presumably this field offered the farmer the greatest opportunity to effect savings and to provide needed services. However, in recent years with the establishment of co-operative wholesales in nearly every province, the purchasing of farm supplies and household needs on a co-operative plan has shown a marked increase.

Out of the 1,722 co-operative associations reporting in 1942, a total of 558 handled food products to the value of \$9,000,000 and 180 associations handled nearly \$1,500,000 worth of clothing and home furnishings for their members and patrons. These associations included the business of approximately 250 urban consumer societies. Petroleum products, handled by 561 associations, were valued at \$7,000,000.

In order to increase crop and live-stock production, farmers of 834 associations purchased \$16,000,000 worth of feed, fertilizer and spray material on a co-operative basis.

Credit unions are active in all provinces of Canada. At Dec. 31, 1942, there were 1,486 credit unions chartered in Canada with a membership of 295,984. More than \$137,000,000 has been lent to the members of the various credit unions in Canada during their period of operation. Loans in the year 1942 totalled about \$11,000,000.

A mutual fire insurance company was formed in Ontario in 1836 and several others, still functioning as farmers' mutuals, were organized between 1850 and 1860. To-day there are about 365 such companies in Canada with net assets of over \$9,000,000 and insurance at risk amounting to over \$1,000,000,000. These have a long history of successful operation.

Approximately 103,000, or 6 p.c., of the telephones in Canada are operated by rural co-operative companies in which there is a total investment of \$20,000,000.

Societies have been formed by fishermen on both coasts for the purpose of canning and marketing fish and buying gear on the co-operative plan. During 1942, 67 fishermen's co-operative societies in Nova Scotia, Quebec and British Columbia with a membership of 4,826 did business amounting to \$2,628,380.

Co-operative housing and co-operative hospitalization and medical service are other forms of newer co-operative ventures that are operating successfully.

Combinations in Unlawful Restraint of Trade

The Combines Investigation Act (R.S.C. 1927, c. 26) provides for the investigation and prevention of trade combinations, monopolies, trusts and mergers formed or operated against the public interest through agreements affecting the supply or price of any class of goods in unlawful restraint of trade. Such organizations are described by the law as combines. Participation in the formation or operation of a combine is an indictable offence. Methods of unlawfully lessening competition and controlling trade include arrangements among competitors or others to enhance prices, to fix common selling prices or resale prices, and to unduly limit production or facilities for manufacturing or distribution. Provisions with respect to similar offences are contained in the Criminal Code of Canada.

Investigations of alleged combines are conducted under the direction of a Combines Investigation Commissioner reporting to the Minister of Labour. Proceedings under this Statute by way of investigation, negotiation and, in circumstances where deemed warranted, by prosecution, have been instrumental in checking undue private trade restrictions and in reducing excessive prices arising from monopolistic restrictions and agreements. Recent cases have included alleged combines of wholesalers of fruits and vegetables in Western Canada, manufacturers of corrugated and fibre-board boxes, and manufacturers and wholesalers of tobacco products. In 1942, under charges of unlawful combination laid at Toronto against four companies manufacturing shipping-case materials and against a trade association officer, fines of \$17,000 were imposed. Previous convictions of members of an alleged combine of shipping-case manufacturers were upheld by the Supreme Court of Canada. Appeals by all but one of a group of tobacco manufacturers and wholesalers convicted under the Combines Investigation Act in 1941 and sentenced to pay fines totalling \$221,500 were allowed in 1942 by the Supreme Court of Alberta.

Wholesale Prices

Wholesale prices moved steadily upward in the first ten months of 1943 to reach a peak unexceeded since the beginning of 1926. Upward adjustments over the past year in ceiling levels for a large number of items, including newsprint, meats and lumber, have been the main cause of this advance. Live stock and wheat were among other important items registering substantial increases. A minimum price of \$1.25 per bushel for No. 1 Northern wheat, basis in store Fort William, Port Arthur and Vancouver, was set for the 1943-44 crop year which compared with a 90-cent per bushel minimum for the previous crop year. Between December, 1942, and October, 1943, the general level of wholesale prices advanced 5.1 p.c. to reach 101.9, while the war-time increase amounted to 40.9 p.c.

Group changes for the period under review varied considerably. Wood, wood products and paper rising to 113.9 between December, 1942, and October, 1943, ranked first with a gain of 10.5 p.c., reflecting two increases, each of \$4 per ton for newsprint, as well as substantial ones for a number of lumber descriptions. Included in this list were fir, pine, spruce, hemlock and cedar. Vegetable products registered an advance of 9.4 p.c. to 94.1 on higher prices for wheat, rye, flax, potatoes, hay, rosin, etc. The increase of 4.4 p.c. to 109.6 recorded for animal products was due to higher prices for furs, fishery products, live stock and meats and poultry which offset declines for milk and its products. Changes among other main groups were relatively insignificant; non-metallic minerals and their products stiffened 1.0 p.c. to 100.5, while non-ferrous metals at 79.7, fibres, textiles and textile products at 91.9 and iron and its products at 115.8 were unchanged. Chemicals and allied products registered a decline of 0.8 p.c. to 100.3.

The advance in Canadian farm-product prices in the first ten months of 1943 was substantially greater than that noted for wholesale prices. It reflected establishment of several bonuses for farm products such as payment of 10 cents per bushel for oats and 15 cents for barley; an increase in the subsidy on fluid milk from 25 cents per cwt. to 55 cents beginning on Oct. 1 and a four-cent per lb. bonus for graded raw

Storage Tanks at a New Manitoba Oil Refinery.—
This refinery takes its crude from the Alberta
oil fields. *Inset:* A view of the cracking unit.

*Courtesy, Industrial Development
Board of Manitoba*



wool from the 1943 clip. In addition there was the establishment of a substantially higher minimum price for wheat (already noted) as well as a 25-cent per bushel advance to \$2.50 in the minimum price for flax. The ceiling price on rye was removed early in the year and prices rose substantially for this cereal while sharp gains were noted also for live stock. The December, 1942, to October, 1943, increase in farm-product prices amounted to 18.9 p.c. and the index at 103.6 was the highest reached since the first month of 1930. The cumulative war-time increase for farm-product prices is 77.4 p.c. Most of the increase in these prices over the past ten months has been in field products which showed a gain of 31.6 p.c. to 90.8. Animal products, on the other hand, recorded a relatively small gain of 6.6 p.c. to reach 125.0.

Index Numbers of General Wholesale Prices and Wholesale Prices of Industrial Materials, August, 1939, and January, 1942 to October, 1943
(1926=100)

Year and Month	Index Numbers of—		Year and Month	Index Numbers of—	
	General Wholesale Prices	Industrial Materials Prices		General Wholesale Prices	Industrial Materials Prices
1939			1942—concluded		
August.....	72.3	65.3	November.....	96.9	94.9
			December.....	97.0	95.1
1942			1943		
January.....	94.1	92.4	January.....	97.1	96.1
February.....	94.6	93.2	February.....	97.5	96.3
March.....	95.0	93.3	March.....	98.5	96.6
April.....	95.0	93.5	April.....	98.9	96.7
May.....	95.2	94.2	May.....	99.2	97.0
June.....	95.8	94.8	June.....	99.6	97.3
July.....	96.0	94.6	July.....	100.1	97.6
August.....	95.5	94.3	August.....	100.4	98.7
September.....	95.8	94.8	September.....	101.2	98.7
October.....	96.6	95.0	October.....	101.9	99.1
			November.....	102.4	99.2

Retail Prices, Rents and Services

Problems During Two Years of the Price Ceiling.—After the imposition of the price ceiling, the cost-of-living index recorded only moderate increases—from 114.6 on Oct. 1, 1941, to 118.4 on Oct. 1, 1943 (August, 1939=100). The bulk of the increase was due to the higher prices of certain foods.

Under the general price-ceiling plan, the prices of most goods and the more important services and rents were frozen at levels prevailing in the basic period, Sept. 15-Oct. 11, 1941. Only a few types of commodities, of which the most important were fresh fruits and vegetables, were originally exempted from the ceiling. Owing to the rising prices and despite the administrative difficulties, it was decided in 1942 to impose ceilings on onions, potatoes, oranges and bananas, and in 1943 on peaches, pears, plums, apples and grapes and on certain other vegetables.

Another special problem arose in connection with the prices of certain farm products that follow a marked seasonal pattern. Since the basic period found some farm commodities at the lower points in their seasonal cycle, it was necessary to allow seasonal price increases. In some cases, notably beef, seasonal price schedules

commensurate with the retail price ceiling (see p. 172). The main impetus for bulk below which the price could fluctuate seasonally was generally adopted. The tendency for the seasonal movement to narrow under conditions of short supply, the necessity of ensuring adequate production and the advance in vegetable prices resulted in a gradual rise in food prices.

By July 1, 1942, the cost-of-living index had risen 2·4 points over Oct. 1, 1941, necessitating the payment of a cost-of-living bonus of 60 cents a week. In the late autumn further advances in the index, largely because of higher meat prices, made it appear probable that another increase in the bonus would become necessary. For this reason, in December, 1942, the Government decided to reduce the prices of certain widely used foodstuffs, by payment of subsidies, with a view to bringing the cost of living at least part way back to the level of the basic period. The articles selected for the price reductions were milk, oranges, tea and coffee; later butter was added. By this method the cost of living was kept down and the pressure on production costs of a further cost-of-living bonus, which might have seriously aggravated inflationary tendencies, was avoided. The so-called consumer subsidies had the additional merit of benefiting all the lower-income groups in the population, rather than just those who were entitled to a cost-of-living bonus.

From the beginning, rising costs have constituted a serious threat to the price ceiling. Initially, these pressures arose because retail prices during the basic period did not fully reflect the rise in costs that had taken place earlier. With rising prices in other countries on which Canada depended for supplies and higher shipping costs, the costs of imported goods continued to rise. As war production expanded and shortages of materials and labour became more widespread, unit costs frequently increased for a variety of reasons, among which were greater labour turnover, dilution of labour skills, the use of inexperienced help, necessity of using substitute materials, lack of the usual means of transportation and, in some cases, reductions in the volume of output and sales and the uneven flow of supplies. To a substantial degree the "squeeze" of higher costs has been absorbed by producers and distributors and arrangements have frequently been made to roll back or roll forward part of the "squeeze" arising at one stage of production to earlier or later stages in the production and distribution system. Continuous efforts have been made to reduce costs by simplification of manufacturing and distributing processes, and by elimination of frills and unnecessary services. Where these methods proved insufficient, and where continued supply of the commodity at ceiling prices was considered necessary, subsidies have been paid on commodities purchased in bulk by Crown companies.

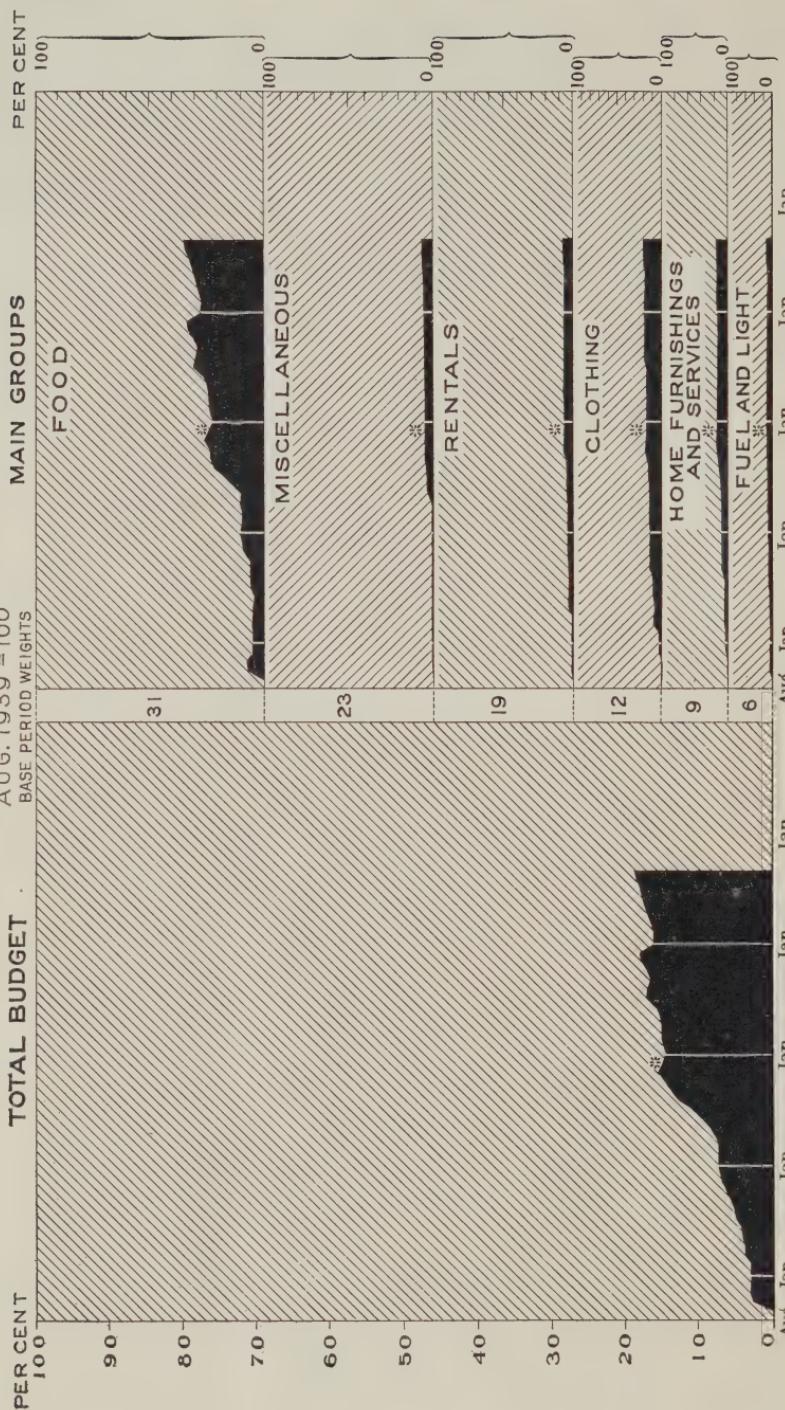
The principles in accordance with which subsidies are paid on imports have been set forth in a series of "Statements of Import Policy". Subsidies are payable only on an increasingly restricted range of imports. Of all the import subsidies, that on petroleum products has proved the most costly. Others of importance include agricultural supplies such as fertilizers, feed ingredients, and agricultural implements and cotton fabrics. Domestic subsidies have been paid on leather footwear and glove and garment leather, certain groceries and canned goods, wood fuel, etc. Transport subsidies have been paid in connection with shipments of beef, potatoes, fertilizers, feed, etc. Subsidies that had been paid to producers on butter and fluid milk are now being administered by the Department of Agriculture.

Bulk purchases of a number of products, mostly imports, are made by the Commodity Prices Stabilization Corporation, which distributes these products at prices

COST OF LIVING INDEX

AUG. 1939 = 100
BASE PERIOD WEIGHTS

AUG. 1933 100
BASE PERIOD WEIGHTS



The solid black areas superimposed on the shaded basic areas show the percentage increases that have taken place in the index over the period indicated. The over-all price ceiling became effective December 1, 1941 (indicated by the asterisk).

commensurate with the retail price ceiling (see p. 172). The main impetus for bulk purchasing, however, has come from the difficulty experienced by importers in obtaining supplies, shipping difficulties, and the necessity of securing priority considerations from the United States and British authorities.

Another problem complicating the maintenance of the price ceiling was that of pricing goods not sold in the basic period. In the case of spring and summer products (e.g., spring and summer clothing), provision was made that the increase in costs, which had occurred between the spring, summer, and autumn of 1941, might be added to manufacturers' prices, and maximum wholesale and retail prices were to be calculated by adding the mark-up normally obtained on the same or substantially similar goods. The increase in the number of new or modified goods because of the use of substitute materials and the introduction of simplification programs has resulted in the adoption of special formulas to determine manufacturers' and ceiling prices.

By the autumn of 1942, the problem of equitable distribution became of major importance in a great many fields of civilian production and distribution. Where manufacturers and wholesalers can no longer supply the full requirements of retailers, they allocate their available supply among their customers according to the proportion supplied to each in the year 1941. Where extraordinary changes in population have taken place, quotas have been adjusted. In addition, new entries into business have been placed under a permit system.

With a general shortage of goods, rationing has become more extensive. In some cases shortages have been due to lower domestic production (farm machinery), or to a reduced volume of imports (tea and coffee). In other cases (butter and meats), total production has increased, but total demand, both from the civilian population, with its increased purchasing power, and from the Armed Services and Allied Nations, has increased by an even greater amount. For certain durable goods in short supply, the permit system has been used (tires and tubes, farm machinery, typewriters). Prior to coupon rationing, the "honour system" of rationing was used for sugar, tea and coffee. Coupon rationing, under which each person receives the same basic ration, has been in force since the dates indicated for the following products: sugar, July 1, 1942; tea and coffee, Aug. 3, 1942; butter, Dec. 21, 1942; meat, May 27, 1942; and honey and preserves, Sept. 2, 1943.

Rationing and other controls over supply has been accompanied by a general strengthening of control over prices. For example, to facilitate the rationing of meats, a standard pricing system for beef, lamb and pork sold at retail has been adopted, based on a system of standard cuts. New price schedules have also been established for meats and substitutes for meats that were not rationed (bologna and weiners, poultry products, and several varieties of fish). To prevent any undue fall in prices of live cattle which might result from meat rationing, the Board and the Department of Agriculture announced a series of floor prices for beef. In periods of surplus supplies, when prices might ordinarily be expected to fall, the market is to be supported by Government purchases of beef through the Department of Agriculture.

Cost of Living

Reflecting the continued success of the rigorous system of price control that has been in effect in Canada since the autumn of 1941, the Dominion Bureau of Statistics cost-of-living index number showed little net change in the first ten months

of 1943. The Oct. 1 index indicated an advance of only 0.5 points since December, 1942. The war-time advance in the index to date has amounted to 18.4 p.c. and is in sharp contrast to the 53.3 p.c. rise for the corresponding period of 1914-18.

With the exception of the first two months of the year 1943, the movement of the index was steadily upward until October, when a drop of 0.1 points occurred. A sharp decline in the index at the first of the year was mainly a result of subsidy payments for milk, tea, coffee and oranges. Between December, 1942, and January, 1943, the cost-of-living index fell 1.7 points to 117.1 as a result of this measure. A further small decline in February reduced the index to 116.9, and this proved to be the low point for the year.

Point changes among sub-groups between December, 1942, and October, 1943, showed miscellaneous items up 1.1 to 108.3; foods 0.1 to 132.9; fuel and light 0.5 to 113.3; clothing 0.9 to 121.1; home furnishings and services 0.4 to 118.2; and rentals 0.6 to 111.9.

Analysis of cost-of-living index numbers for eight regional cities on the base August, 1939=100, indicated some small divergencies over the past ten months. Halifax, with an increase of 1.7 p.c. to 118.2, registered the greatest gain between December, 1942, and October, 1943, while Winnipeg declined 0.2 p.c. to 115.4; no other city index moved lower during this period. War-time increases to Oct. 1, 1943, were as follows: Montreal, 21.5 p.c.; Saskatoon, 19.0 p.c.; Saint John, 18.4 p.c.; Halifax, 18.2 p.c.; Vancouver, 17.7 p.c.; Toronto, 17.5 p.c.; Edmonton, 15.9 p.c.; and Winnipeg, 15.4 p.c.

When comparing the increases in living costs for different cities, cognizance should be taken of the fact that the advance is related only to the base period for each city. It does not mean that because the cost-of-living index for Montreal, for example, has advanced more than that noted for Winnipeg that the actual cost of living in dollars and cents is greater in the former city. This is explained by the fact that the base period budget amount in dollars and cents varied for each city in accordance with typical wage-earner family expenditures in each area.

Index Numbers of Living Costs in Canada, 1935-42, and by Months, 1943
(Av. 1935-39 = 100)

Year and Month	Food	Rent	Fuel and Light	Clothing	Home Furnishings	Sundries	Total
1935.....	94.6	94.0	100.9	97.6	95.4	98.7	96.2
1936.....	97.8	96.1	101.5	99.3	97.2	99.1	98.1
1937.....	103.2	99.7	98.9	101.4	101.5	100.1	101.2
1938.....	103.8	103.1	97.7	100.9	102.4	101.2	102.2
1939.....	100.6	103.8	101.2	100.7	101.4	101.4	101.5
1940.....	105.6	106.3	107.1	109.2	107.2	102.3	105.6
1941.....	116.1	109.4	110.3	116.1	113.8	105.1	111.7
1942.....	127.2	111.3	112.8	120.0	117.9	107.1	117.0
1943							
January.....	127.3	111.3	112.8	120.2	117.8	107.5	117.1
February.....	126.7	111.3	112.7	120.1	117.8	107.5	116.9
March.....	127.7	111.3	112.7	120.1	117.8	107.5	117.2
April.....	128.7	111.3	112.7	120.2	117.8	107.7	117.6
May.....	129.9	111.5	112.7	120.2	117.8	108.0	118.1
June.....	130.9	111.5	113.0	120.4	117.8	108.2	118.5
July.....	131.8	111.5	113.4	120.5	117.8	108.2	118.8
August.....	133.2	111.5	113.4	120.6	117.9	108.2	119.2
September.....	133.5	111.5	113.4	120.6	118.2	108.3	119.4
October.....	132.9	111.9	113.3	121.1	118.2	108.3	119.3

CHAPTER XV

Public Finance

The enormous outlays of government funds made necessary by the War, and the adoption of a "pay-as-you-go" policy so far as possible, have made a heavy drain on the resources of the ordinary tax-paying citizen. Provincial and municipal requirements have been curtailed as much as possible in order to free money to enable the Government to finance the war effort.

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance, established in 1869, exercises supervision, control and direction over all matters relating to the financial affairs, public accounts, etc., of the Dominion.

Dominion Finances, 1868-1943

Fiscal Year	Total Revenue	Per Capita Revenue ¹	Total Expenditure	Per Capita Expenditure ¹	Net Debt at End of Year	Net Debt Per Capita ¹
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.90	14,071,689	4.01	75,757,135	21.58
1871.....	19,375,037	5.25	19,293,478	5.23	77,706,518	21.06
1881.....	29,635,298	6.85	33,796,643	7.82	155,395,780	35.93
1891.....	38,579,311	7.98	40,793,208	8.44	237,809,031	49.21
1901.....	52,516,333	9.78	57,982,866	10.80	268,480,004	49.99
1911.....	117,884,328	16.36	122,861,250	17.05	340,042,052	47.18
1921.....	436,292,184	49.65	528,302,513 ²	60.12	2,340,878,984	266.37
1931.....	357,720,435	34.48	441,568,413 ²	42.56	2,261,611,937	217.94
1933.....	311,735,286	29.19	532,369,940 ²	49.84	2,596,480,826	243.09
1936.....	372,595,996	33.79	532,585,555 ²	48.29	3,006,100,517	272.59
1937.....	454,153,747	40.84	532,005,432 ²	47.84	3,083,952,202	277.33
1938.....	516,692,749	46.10	534,408,117 ²	47.68	3,101,667,570	276.71
1939.....	502,171,354	44.37	553,063,098 ²	48.88	3,152,559,314	278.62
1940.....	562,093,459	49.21	680,793,792 ²	59.60	3,271,259,647	286.40
1941.....	872,169,645	75.80	1,249,601,446 ²	108.60	3,648,691,449	317.09
1942.....	1,488,536,343	129.36 ³	1,885,066,055 ²	163.82 ³	4,045,221,161	351.55 ³
1943.....	2,249,496,177	195.50 ³	4,387,124,118 ²	381.03 ³	6,182,849,101	537.30 ³

¹ Per capita figures for census years are based upon census populations and for intervening years on official estimates. ² Includes advances to railways and transfers from active to non-active assets. ³ 1941 Census figure of population used (11,506,655).

The Financing of the Present War

The War Budgets.—In September, 1939, immediately following the outbreak of war, Parliament passed a Special War Budget, the main features of which were the introduction of an Excess Profits Tax, a 20 p.c. increase in both personal and corporate income taxes, higher rates of taxes and customs duties on liquors, tobaccos, wines, tea and coffee.

In June, 1940, came the second Budget of the war period which undoubtedly surpassed in severity any that the Canadian people had previously been called upon

to meet. In this Budget emphasis was placed on direct taxation as a means of distributing the war burdens as much as possible according to ability to pay. The income tax was extended to include many new taxpayers and the rates were revised sharply upwards. (See also section headed Income Tax, p. 183). The National Defence Tax was introduced, and took the form of a flat-rate tax, levied at rates of 2 p.c. and 3 p.c. on total income. The Excess Profits Tax Act was extensively revised. The amended Act provided a tax rate of 75 p.c. of excess profits (previously 50 p.c.) and a proviso that the minimum tax payable would be 12 p.c. of total profits in the taxation year. Taxes on automobiles and smokers' supplies were again raised substantially, and new levies were imposed on radios, radio tubes, cameras and phonographs. Under the Customs Tariff, rates on tobacco and tea were increased and other technical changes made.

The War Exchange Conservation Act passed by Parliament in December, 1940, was designed to discourage the importation of goods from hard-currency countries and to stimulate trade with countries in the sterling area. Amendments to the Special War Revenue Act were passed at the same time providing for higher taxes on passenger automobiles, cameras, phonographs, radio sets and tubes, and for new taxes on electrical and gas appliances, including stoves, refrigerators, lighting fixtures, etc., and on coin- or disc-operated slot machines and vending machines.

In the third War Budget, passed in April, 1941, the rates of personal income tax were again raised sharply, while the rates under the National Defence Tax were increased to 5 p.c. and 7 p.c. The tax on interest and dividends going abroad was increased from 5 p.c. to 15 p.c. The minimum rate of tax payable under the Excess Profits Tax Act was increased from 12 p.c. to 22 p.c. With the introduction of a Succession Duties Act, the Dominion stepped into a field hitherto left exclusively to the provinces.

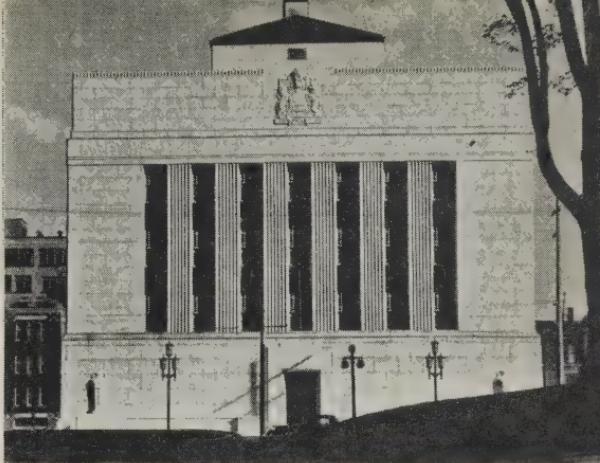
Sharp increases in rates and heavy new taxes were also introduced in the field of indirect taxation affecting mainly gasoline (hitherto taxed only by the provinces), motion-picture and other entertainments, travel tickets and bottled soft drinks. Existing tax rates on a considerable list of items—sugar, automobiles and buses, beer, malt and wine, cosmetics, playing cards, cigarette lighters and long-distance telephone calls—were subject to heavy increases.

An important feature of this Budget was the offer to compensate the provinces if they would agree to vacate the personal income and corporation tax fields for the duration of the War. All nine provinces accepted the proposals. (See p. 172, *Canada 1943*.)

The tremendous and increasing cost of Canada's part in the War was reflected in the fourth Budget of the war period brought down in June, 1942. The tax changes followed the predominant pattern of the previous Budgets. The changes in the income tax on individuals and the excess profits tax applying to corporations were numerous and complex in character. Briefly, the main changes in the personal income tax were: (a) the National Defence Tax was incorporated into the general income tax; (b) the graduated rates of tax were steeply increased, and the credit for dependants was changed from a deduction from income to a deduction from tax; (c) it was provided that part of the total tax would be a form of compulsory saving to be refunded after the War; (d) a plan was introduced for deduction of income tax at the source from all salaries and wages paid after Sept. 1, 1942, and for compulsory payments of income tax on a quarterly instalment plan in the case of other forms of income.

The Bank of Canada,
Ottawa.

Courtesy, National Film Board



Under the Excess Profits Tax Act, rates of tax were considerably increased with the result that corporations having profits in excess of 116½ p.c. of their standard profits (average 1936-39) pay a tax at the rate of 100 p.c. and no corporation is allowed to retain, after tax, profits equal to more than 70 p.c. of its standard profits. Provision was made, however, for a 20 p.c. refund after the War for corporations to which the 100 p.c. rate of tax applies. Payment of corporate income tax and excess profits tax on a monthly instalment plan parallels the system of deduction at the source in the case of individuals.

In the field of indirect taxation, additional revenue was found by raising existing taxes on spirits, tobacco, cigarettes, soft drinks, passenger transportation, communications and miscellaneous other articles and services. Certain new taxes were introduced at the manufacturer's level, the normal point of levying sales and excise taxes under Dominion tax law, including taxes on candy, chewing gum, photographic films and supplies, luggage, fountain pens and pencils, and pipes and other smokers' accessories, while a radical departure was made with the introduction of taxes to be collected by stamps at the retail level on a list of luxury articles, including jewellery, cut glass and crystal ware, clocks and watches, articles made wholly or in part of certain materials, and chinaware other than that used in preparing and serving food and drink. Another innovation was a tax collected directly on expenditures made by patrons of certain cabarets and dance halls.

The Budget of Mar. 2, 1943, again provided for revenues and expenditures considerably increased over those of any previous year and carried the principle of "pay-as-you-go" to its logical conclusion. Total expenditures for the fiscal year 1943-44 were estimated in this Budget at \$5,500,000,000. It was estimated that revenue on the basis of existing tax rates (including revenue from the refundable taxes) would amount to \$2,601,000,000 and tax changes were introduced to provide an additional \$151,200,000, bringing the revenue forecast up to \$2,752,200,000, or to almost exactly one-half of the estimated expenditure. The balance of the requirements, approximately \$2,748,000,000, was expected to be met through the sale of war savings stamps, certificates and Victory Bonds and, to some extent, through bank borrowing.

Tax changes introduced by this Budget were relatively limited. The rates on cigarettes, cigars, manufactured tobacco, raw leaf tobacco and cigarette papers and tubes were all increased. The duty on alcoholic spirits and the tax on cabarets and night clubs were raised and a one-cent increase in the postage rate was provided.

There were no changes in the general rates or exemptions under the income tax. Substantial alteration was made in the basis of taxing the oil industry, in order

to encourage new development and production, and the special income tax allowances granted to members of the Armed Services were amended to provide further relief. Tax alleviation was also given to Canadian personnel of the Merchant Marine and the R.A.F. Transport Command. Payments on a Dominion Government annuity, as a deduction from the savings portion of the tax, were also allowed. Changes made in the Excess Profits Tax Act, and the customs tariff were of minor importance.

The "Pay-As-You-Go" Plan.—The adoption of the "pay-as-you-go" plan of income tax payment represented an important break with the traditional method of tax collection—a break that Canada was the first country to make. Under the system of deductions from income in the 1942 Budget (see p. 178), tax deductions were made at the source from salaries and wages, but these deductions did not relate to the current income but to the income of an earlier period. They were made *from* current earnings but not *for* current earnings. Thus, a taxpayer was, at all times, considerably in arrears to the Government for income tax, a situation that created a difficult problem for those suffering a reduction or loss of income through entering the Armed Forces, retirement from active earning or on death. In these circumstances a tax debt remained to be paid on the former higher income.

The basic step in wiping out this tax debt and bringing taxpayers up-to-date was the cancellation of 50 p.c. of the 1942 tax liability on earned income and on investment income up to \$3,000. Investigation had shown that owing to the deduction of National Defence Tax for the first eight months of 1942 and of the much larger amounts under the 90 p.c. plan in effect during the last four months of 1942, the majority of taxpayers had already paid at least 50 p.c., and, in many cases, considerably more than 50 p.c. of their 1942 liability. For the majority of taxpayers the 50 p.c. cancellation thus completely wiped out the tax arrears for 1942 and brought them up-to-date in their payments. All deductions made during 1943 have been for the tax on income earned in 1943.

Taxpayers will continue to file an annual return (in respect of 1943 income on or before Apr. 30, 1944) in which they will take account of deductions withheld from their income during the year, and make up whatever balance may be owing against their full annual liability or make any other adjustment that may be necessary. A new table of tax deductions introduced on Apr. 1, 1943, designed to withhold 95 p.c. of the full tax liability, will leave a smaller balance to be paid than under the 90 p.c. table previously in use.

Certain changes were also made affecting other groups. The quarterly plan of instalment payments for taxpayers, other than wage and salary earners, was made to coincide with the calendar year, while farmers will be required to pay two-thirds of their tax by Dec. 31 and the balance before Apr. 30 of the following year.

Revenues and Expenditures

In the fiscal year ended Mar. 31, 1943, both revenues and expenditures far exceeded any year in the history of the Dominion. Revenues increased by \$760,960,000 to \$2,249,496,000, mainly accounted for by the increase in income tax and excess profits tax collections. Of total disbursements of \$4,387,124,000, expenditures on the War accounted for \$3,724,249,000 or approximately 85 p.c. Ordinary expenditures, covering the normal operating costs of the Government, increased by \$116,000,000 mainly owing to increased debt charges arising out of the War and the payment

of compensation to the provinces under the Dominion-Provincial taxation agreements (see p. 178). Special expenditures, mainly for agricultural relief purposes, decreased by \$33,000,000, while expenditures on Government-owned enterprises remained unchanged. The over-all deficit or increase in net debt for the year amounted to \$2,137,628,000 compared with \$396,530,000 in the previous fiscal year.

War Loans

The First and Second War Loans and the 1941 Victory and Second Victory Loans were sold by the Government to the Canadian public to provide a part of the funds required for various purposes that were not covered by revenue. The First War Loan, dated Feb. 1, 1940, was sold in an amount of \$250,000,000 (\$200,000,000 for cash); the Second War Loan, dated Oct. 1, 1940, was sold in an amount of \$324,945,700 (\$300,000,000 for cash); the 1941 Victory Loan, dated June 15, 1941, was sold in a total amount, for the two maturities, \$836,820,250 (\$730,376,250 for cash). The Second Victory Loan dated Mar. 1, 1942, was sold in a total amount, for the three maturities, of \$996,706,900 (\$843,127,900 for cash) from 1,681,267 subscribers. The Third Victory Loan, dated Nov. 1, was sold in a total amount for two maturities, of \$991,389,050 (all cash) from 2,041,610 subscribers.

Service Pilots from many Countries Buying Victory Bonds at an Airport Branch of a Chartered Bank.

Courtesy, Royal Bank of Canada



The Fourth Victory Loan, dated May 1, 1943, was sold in a total amount, for two maturities, of \$1,291,000,000 (all cash) from 2,431,949 subscribers. The Fifth Victory Loan, dated Nov. 1, 1943, was sold in a total amount, for two maturities, at \$1,571,311,550 (\$1,383,275,250 for cash) from 3,033,051 subscribers.

War Savings Certificates.—To provide a form of savings for those not able to purchase the bonds of larger denominations of Victory and War Loans and to provide a means of regular savings, the Government instituted the sale of War Savings Certificates and Stamps in May, 1940. The Stamps are sold in the denomination of 25 cents and may be accumulated for the purchase of War Savings Certificates. The Certificates are issued at a cost to the purchaser of \$4, \$8, \$20, \$40 and \$80, and if held to maturity, seven and one-half years after issue date, are redeemable at \$5, \$10, \$25, \$50 and \$100, respectively, and for lesser amounts if redeemed prior to maturity. The yield to the investor, if held to maturity, is 3 p.c., compounded semi-annually. From May 27, 1940, to Oct. 31, 1943, Certificates having a purchase value of \$250,142,960 were sold.

In June, 1940, arrangements were made to issue Non-Interest Bearing Certificates in the denomination of one dollar or over, maturing June 15, 1945, but subject to redemption at the option of the holder at any time after six months from the date of issue.

Summary of Total Revenues and Expenditures, Fiscal Years 1939-43

Item	1939	1940	1941	1942	1943
	\$'000	\$'000	\$'000	\$'000	\$'000
Revenues					
Customs Import Duties.....	78,751	104,301	130,757	142,392	118,963
Excise Duties.....	51,314	61,032	88,608	110,091	138,721
Income Tax.....	142,026	134,449	220,471	403,606	860,189
National Defence Tax.....	—	—	27,672	106,637	
Excess Profits Tax.....	—	—	23,995	135,168	434,581
Sales Tax.....	122,139	137,446	179,701	236,183	232,929
War Exchange Tax.....	—	—	61,932	100,874	94,553
Other taxes.....	41,477	30,457	37,404	125,962	186,784
Totals, Revenues from Taxation.....	435,707	467,685	770,540	1,360,913	2,066,720
Non-tax revenues.....	62,310	73,931	89,215	102,911	116,079
Totals, Ordinary Revenues.....	498,017	541,616	859,755	1,463,824	2,182,799
Special receipts and other credits ..	4,154	20,477	12,415	24,712	66,697
Totals, Revenues.....	502,171	562,093	872,170	1,488,536	2,249,496
Expenditures					
Ordinary Expenditures.....	413,032	398,323	390,629	444,778	561,251
Capital Expenditures.....	5,424	7,030	3,358	3,430	3,276
War Expenditures (special).....	—	118,291	752,045	1,339,674	3,724,249
Other special expenditures ¹	71,895	89,113	42,869	63,976	31,288
Government-owned enterprises ²	58,944	42,079	18,182	1,214	1,248
Other charges.....	3,768	25,958	42,518	31,994	65,812
Totals, Expenditures.....	553,063	680,794	1,249,601	1,885,066	4,387,124
Deficits.....	50,892	118,701	377,431	396,530	2,137,628

¹ Includes \$27,000,000, \$10,500,000 and \$12,600,000 reserve against estimated loss on wheat guarantees for 1939-40, 1940-41, and 1941-42, respectively.

² Includes net income deficit of the Canadian National Railways incurred in the calendar years 1938 to 1940 as follows: \$54,314,000, \$40,096,000 and \$16,965,000, taken into the accounts of the Dominion in the fiscal year after the close of the calendar year.

Designing Postage Stamps.—The artist preparing the design for the six-cent air-mail stamp for which he carefully studies four R.C.A. photographic prints.

Courtesy, National Film Board



Analysis of Income Tax Collections

The income tax was introduced during the War of 1914-18, as part of what is still known as war-tax revenue. It is a war tax in name only, for even before the outbreak of the present War it had become a permanent and important part of the taxation structure, and the chief means of raising ordinary revenue. It is now, of course, playing a still more important role in the raising of revenue. In many respects, it is an ideal form of direct taxation; the incidence is admittedly fair and just and the machinery for the collection of this tax was ready to hand.

The pressure of war financing naturally forced the Government to lower the exemption limits and this broadening of the field, as well as the switch over to a "pay-as-you-go" basis, has made it impossible to compile statistics relating to income groups and occupational classes on a comparable basis. At the present time, work is under way on the compilation of detailed statistics regarding the incomes assessed for the taxation year 1941. These will be the beginning of a new series of income tax compilations and will relate the collection more closely to the year in which the income is actually earned.

As an indication of the manner in which the income tax is broadening out to cover a greater proportion of the population than was formerly the case, the table showing the number of assessable returns filed is of interest. This table covers the taxation year, i.e., the year in which the income was earned, while the second table shows the amounts collected under the various sections of the Income Tax Act in the fiscal years ended Mar. 31, 1935-43.

Record of Assessable Returns Filed, by Taxation Years, 1935-41

Taxation Year	Individual Returns Filed	Corporation Returns Filed	Total Returns Filed
	No.	No.	No.
1935.....	189,748	9,950	199,698
1936.....	212,112	11,343	223,455
1937.....	240,956	12,539	253,495
1938.....	245,134	11,761	256,895
1939.....	257,186	12,619	269,805
1940.....	684,359	14,806	699,165
1941.....	896,947	15,725	912,672

¹ Calendar year in which income earned in the case of individuals and, for corporations, the business year ending within the calendar year.

Collections Under the Income War Tax Act, Fiscal Years 1935-43

Fiscal Year	General Income Tax		Tax on Dividends and Interest Sect. 9B	Tax on Rents and Royalties Sect. 27	Gift Tax Sect. 88	Total
	Individuals Sect. 9-1	Corporations Sect. 9-2				
1935.....	\$ 25,201,392	\$ 35,790,239	\$ 5,816,435	\$ —	\$ —	\$ 66,808,066
1936.....	32,788,746	42,518,971	7,207,601	—	194,485	82,709,803
1937.....	35,358,302	58,012,843	8,910,014	—	84,083	102,365,242
1938.....	40,070,942	69,768,605	10,152,088	—	373,897	120,365,532
1939.....	46,591,449	85,185,887	9,903,046	—	345,756	142,026,138
1940.....	45,008,858	77,920,002	11,121,632	—	398,074	134,448,566
1941.....	75,636,231	131,565,710	12,282,259	759,957	226,847	248,143,022 ¹
1942.....	189,237,538	185,835,699	26,642,106	1,626,669	264,258	510,243,017 ¹
1943.....	533,915,059	347,969,723	26,710,946	1,369,851	223,093	910,188,672

¹ Includes National Defence Tax amounting to \$27,672,018 in 1941 and to \$106,636,747 in 1942.

Provincial Finance

Provincial revenues, originally obtained from Dominion subsidies, the public domain and certain limited forms of taxation, increased from \$5,519,000 in 1871 to \$355,311,000 in the provincial fiscal years ending nearest Dec. 31, 1940. In 1940, six sources accounted for 71.9 p.c. of the total revenue as follows: Dominion of Canada subsidies and subventions, \$63,130,000 (17.8 p.c.) ; gasoline taxes, \$54,077,000 (15.2 p.c.) ; corporation taxes, \$51,208,000 (14.4 p.c.) ; liquor control, \$35,515,000 (10.0 p.c.) , public domain, \$26,971,000 (7.6 p.c.) ; motor-vehicle licences, \$24,591,000 (6.9 p.c.).

Aggregate Provincial Revenues and Expenditures

NOTE.—Figures for 1940 are not strictly comparable with preceding years. Years following 1939 include provincial fiscal years nearest to Dec. 31 instead of the fiscal years ended in the year specified

Fiscal Year	Gross Ordinary Revenues	Gross Ordinary Expenditures	Fiscal Year and Province	Gross Ordinary Revenues	Gross Ordinary Expenditures
1901.....	14,074,991	14,146,059	1940—		
1921.....	102,030,458	102,569,515	P.E. Island.....	1,970,000	2,195,000
1926.....	146,450,904	144,183,178	Nova Scotia.....	16,962,000	15,790,000
1929.....	183,598,024	177,542,192	New Brunswick.....	12,859,000	12,427,000
1930.....	188,154,910	184,804,203	Quebec.....	72,228,000 ²	68,598,000 ²
1935.....	160,567,695 ¹	181,175,687 ¹	Ontario.....	131,216,000	116,857,000
1936.....	232,616,182	248,141,808	Manitoba.....	23,514,000	22,306,000
1937.....	268,497,670	253,443,737	Saskatchewan.....	28,756,000	33,203,000
1938.....	287,955,846	273,861,417	Alberta.....	25,956,000	21,597,000
1939.....	296,873,259	289,228,598	Br. Columbia.....	41,850,000	37,957,000
1940.....	355,311,000 ²	330,930,000 ²			

¹ Nova Scotia figures are for fourteen months and Ontario figures for five months. figures are for nine months.

² Quebec

The gross provincial funded debt, which totalled \$218,876,000 in 1916 and increased steadily until it reached \$1,734,274,912 in 1940, declined in 1941 to \$1,708,049,903. A further decrease is indicated for 1942, but actual figures are not available for all provinces.

Aggregate Provincial Direct Liabilities, 1940 and 1941

Item	1940 ¹	1941 ¹	Province	1940 ¹	1941 ¹
	\$	\$		\$	\$
Gross funded debt....	1,734,274,912	1,708,049,903	Prince Edward Island.....	9,467,733	9,489,494
Less sinking funds....	156,735,820	151,437,610	Nova Scotia....	98,478,264	98,977,109
Net funded debt....	1,577,539,092	1,556,612,293	New Brunswick.....		
Treasury bills.....	270,742,723	279,187,921	Quebec.....	97,043,223	97,008,979
Savings deposits.....	41,731,668	38,192,476	Ontario.....	387,747,347	383,542,315
Temporary loans.....	8,820,073	8,277,713	Manitoba.....	729,815,356	724,938,879
Superannuation and other deposits.....	18,532,354	18,425,574	Saskatchewan.....	116,384,140	112,251,698
Accrued interest.....	21,360,343	21,129,559	Alberta.....	207,460,114	208,593,307
Accounts payable and other liabilities.....	18,552,423	14,128,226	British Columbia....	151,963,036	150,827,448
Totals, Direct Liabilities (less sinking funds) ..	1,957,278,676	1,935,953,762	Totals, Direct Liabilities (less sinking funds)	1,957,278,676	1,935,953,762

¹ For fiscal years ending nearest to Dec. 31.

Municipal Finance

In 1941 there were 4,018 incorporated municipalities in Canada, including, in Ontario and Quebec, 114 counties, comprised of the local towns, villages and rural municipalities situated therein, which provide the necessary funds for the services falling within the scope of county administration. There are also counties in Nova Scotia and New Brunswick, but these are basically the same as rural municipalities in the other provinces. In two of the western provinces, Saskatchewan and Alberta, there are also areas that are similar to rural municipalities, except that they enjoy a lesser degree of local services and are not self-governing. These are called "Improvement Districts". The Provincial Governments administer the services provided in these areas and also levy and collect the necessary taxes.

Revenues and Expenditures.—The chief source of municipal revenues is the taxation of real estate. Other major revenues are derived from business and personal property taxes, as well as from taxes on retail sales, although these types of revenues are not general in all provinces. Municipal revenues, including local schools, for 1941 are estimated at \$320,300,000.* Of this amount, \$243,800,000 or 76 p.c. represents taxes on real estate; \$36,500,000 or 11 p.c. other taxes; and \$40,000,000 or 13 p.c. comes from miscellaneous sources. In 1938, revenues were \$309,500,000†; 78 p.c. was derived from real property taxes and other taxes represented 10 p.c. of the total.

Expenditures in 1941 are estimated at \$313,200,000.* The support of local schools represented the largest single item of expenditure and required \$84,000,000 or 26 p.c. of the total. Other services such as public welfare, streets and roads, police and fire protection, etc. (but excluding debt service charges) amounted to \$149,300,000 or 47.7 p.c., and debt service charges, including debt retirement, amounted to \$79,900,000 or 25.5 p.c. of the total. Total expenditures in 1938 were \$318,300,000 with \$79,000,000 or 24.8 p.c. going for the support of local schools; \$154,900,000 or 48.7 p.c. for other services and \$84,400,000 or 26.5 p.c. for debt service and debt retirement.

*Statistical Summary, Bank of Canada, Aug.-Sept. 1942. †Statistical Summary, Bank of Canada Aug.-Sept. 1941.



Selling Bonds at a Rural Branch Bank, during the Fifth Victory Loan Campaign.

Courtesy, Bank of Montreal

Bonded Debt.—Municipalities in Canada have experienced rapid growth, which, coupled with increased demands and responsibilities for improvements (schools, utilities and other services or facilities), resulted in the incurring of a heavy burden of debt. The following table shows the debt for 1919 in comparison with figures for 1940 and 1941, together with sinking funds held on debt account. The figures for 1919 are not entirely comparable with those for recent years as more complete detail is now available. The later figures are

not entirely inclusive, because the debt for rural schools in the Maritimes and for Separate School Boards and district schools in Ontario are not shown.

Municipal Bonded Debt and Sinking Funds, by Provinces, 1919 and 1940-41

Province	Gross Bonded Debt			Sinking Funds	
	1919	1940	1941 ¹	1940	1941 ¹
	\$'000	\$'000	\$'000	\$'000	\$'000
Prince Edward Island.....	970	3,215	3,168	569	643
Nova Scotia.....	17,864	35,593	34,092	13,790	13,045
New Brunswick.....	11,188	26,558	26,142	8,683	9,009
Quebec.....	199,706	515,801	502,707	87,175	92,400
Ontario.....	243,227	365,661	335,393	53,420	52,786
Manitoba.....	55,563	78,849	73,836	34,626	33,745
Saskatchewan.....	39,585	51,054	50,078	22,152	23,259
Alberta.....	66,870	54,869	52,753	9,324	8,580
British Columbia.....	94,742	112,401	108,514	29,604	29,032
Totals.....	729,715	1,244,001	1,186,683	259,343	262,499

¹ Subject to minor revision.

During the depression years, capital undertakings and works requiring debenture financing were severely curtailed. With the advent of the present War, this policy of deferment has been continued, if not further extended, so as to leave the financial market as free of municipal borrowings as possible and available to the needs of the Dominion Government in meeting its war-financing requirements. As a result, the trend of municipal bonded debt in recent years has been downward, as illustrated in the above figures for 1940 and 1941. A further significant factor in this regard is that the greater part of the total municipal debt is represented by serial or instalment type debentures, which require yearly repayments of principal.

CHAPTER XVI

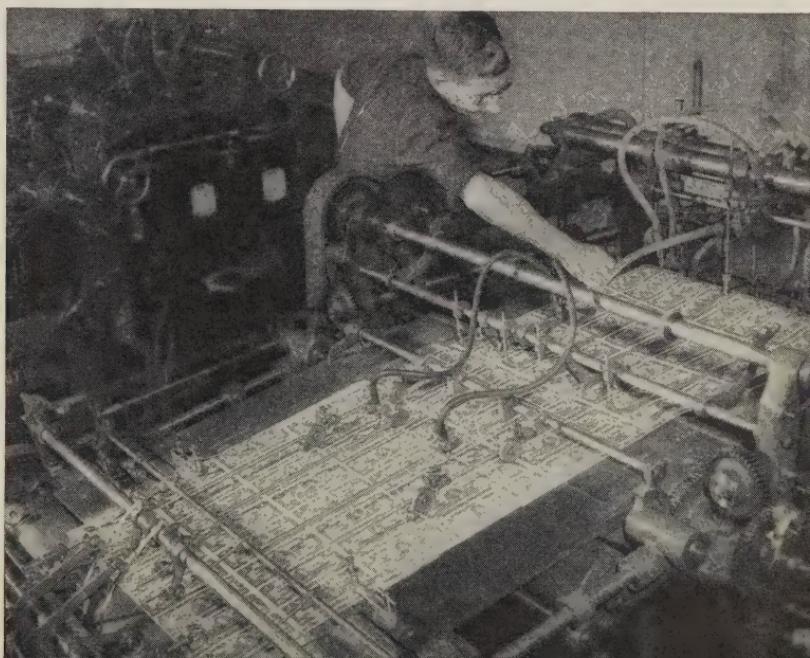
Currency—Banking—Insurance

Currency

The use of the dollar as a monetary unit was extended throughout the new Dominion by the Uniform Currency Act of 1871. The Canadian gold dollar weighs 25·8 grains, nine-tenths fine gold, and thus contains 23·22 grains of gold. Only very limited issues of gold coin have ever been made. British and United States gold coin are legal tender in Canada. Subsidiary silver coin is legal tender up to \$10; the 5-cent piece (now made of zinc and copper) is legal tender up to \$5; and the 1-cent bronze coin, up to 25 cents. Since 1931, the Government has permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation to meet the external obligations, and Canadian mines now dispose of their gold through the Royal Canadian Mint according to definite conditions of purchase.

Bank Notes.—Under the Bank Act the chartered banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. This amount was reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and is to be reduced by 10 p.c. per annum for a period of five years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over sixty years no note holder has lost a dollar.

In addition to notes of the chartered banks, there are also in circulation notes of the Bank of Canada. These notes may be issued to any amount as long as the Bank maintains a reserve in gold equal to at least 25 p.c. of its note and deposit liabilities (but see p. 188).



Over-Printing the Signatures of the Governor and the Deputy Governor on Banknotes.—This is done at the Bank of Canada under closely guarded conditions.

Bank Notes Outstanding, Representative Years, 1900-43
(Yearly Averages)

Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding	Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding
	\$	\$		\$	\$
1900.....	26,550,465	46,574,780	1936.....	105,275,223 ¹	119,507,306
1910.....	89,628,569	82,120,303	1937.....	141,053,457 ¹	110,259,134
1920.....	305,806,288	288,800,379	1938.....	161,137,059 ¹	99,870,493
1929.....	204,381,492	178,291,030	1939.....	184,904,919 ¹	94,064,907
1931.....	153,079,362	141,969,350	1940.....	277,095,305 ¹	91,134,378
1932.....	165,878,510	132,165,942	1941.....	406,433,409 ¹	81,620,753
1933.....	179,217,446	130,362,488	1942.....	572,256,208 ¹	71,743,242
1934.....	190,261,981	135,537,793	1943.....	756,217,471 ²	51,523,607 ²
1935.....	127,335,340 ¹	125,644,102			

¹ Since Mar. 11, 1935, the figures used represent Bank of Canada notes.

² Ten-month figure.

Banking

Banking in Canada began to develop some of the features of a central bank system soon after Confederation. These in chronological order are:—

- (1) *Central Note Issue*, permanently established with the issue of Dominion notes under legislation of 1868.
- (2) *The Canadian Bankers' Association*, established in 1900 to effect greater co-operation in the issue of notes, in credit control, and in various other ways.
- (3) *Central Gold Reserves*, established in 1913.
- (4) *Re-discount Facilities*, made a permanent feature of the system in 1923, provided the banks with a means of increasing their legal tender cash reserves at will.
- (5) *The Bank of Canada*, established as a central bank in 1935.

The Bank of Canada.—Legislation was enacted in 1934 to establish the Bank of Canada as a central or bankers' bank. All of its stock is now vested in the Dominion Government. The Bank regulates the statutory cash reserves of the chartered banks, which are required to maintain not less than 5 p.c. of their deposit liabilities payable in Canadian dollars in the form of deposits with, and notes of, the Bank of Canada. The Bank also acts as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. Bank of Canada notes, which are legal tender, are the main source of paper money in Canada and will become increasingly so since the chartered banks must gradually reduce their note issues to 25 p.c. of their paid-up capital.

The Bank of Canada is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. Under the Exchange Fund Order, 1940, the Bank transferred its reserve of gold to the Foreign Exchange Control Board in which Canada's exchange reserves have now been centralized. At the same time the Bank of Canada's statutory 25 p.c. minimum gold reserve requirement against its note and deposit liabilities was temporarily suspended.

The Canadian Banks and the Dominion's War Effort.—Because they operate for the most part on a nation-wide scale, the chartered banks of Canada from the first have been in a position to exercise an extraordinarily potent influence on Canada's

Ration Banking.—

Ration banking is a new and major wartime undertaking for the banks. It means checking, sorting and entering thousands of ration coupons daily. In an average week one branch alone handles as many as 400,000 coupons.

Courtesy, Royal Bank of Canada



war effort. The experience, resources and organization of these banks, with their thousands of branches throughout the country, have been placed unreservedly at the disposal of the Dominion Government, and have been of great assistance not only in carrying out much of the administrative work connected with the control of measures necessary for the maintenance of financial equilibrium but also for the services of experts to assist in operations connected with the financing of war operations.

To-day, the volume of business handled by the banks is on a level phenomenally, higher than at any time in their history, yet their staffs of experienced men are much smaller than in peace-time, owing to the fact that nearly 7,000 of their younger men are serving in the Armed Forces. These men have had to be replaced by women, quickly and intensively trained for their work.

The most onerous war work devolving on the chartered banks has been the administration of the regulations of foreign exchange control. These regulations, which are numerous and complicated, entail much extra work by the staffs of the leading offices, involving as they do explanations to customers, advice as to procedure, the filling out of forms and full responsibility for all the innumerable international transactions involved.

Other war work includes handling details connected with the offering and sale of Victory Bonds; selling war savings certificates and war savings stamps; ration-coupon banking; establishment of branches at military camps; cashing of innumerable cheques for Government employees and members of the Armed Forces and their dependants; the cashing of coupons for the hundreds of thousands of holders of Victory Bonds; the administering of much detail of Canada's cheque stamp law; the collecting and clearing of millions of income tax certificates relative to coupons, cheques and other items cashed and received for deposit.

Commercial Banking.—The branch bank is perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks was the development of a partly centralized system. The number of chartered banks, which was 36 in 1881 and 34 in 1901, decreased to

25 in 1913 and is now only 10, but has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069, but by the beginning of 1943 the number had decreased to 3,129. Commencing in 1941, in the effort to conserve manpower, numerous branches of the chartered banks have been closed down temporarily, but this has been planned between the banks so that no area in Canada is left without adequate banking facilities. From 1867 to October, 1943, the total assets have grown from \$78,000,000 to \$5,267,000,000.

Statistics of Individual Chartered Banks as at Oct. 31, 1943

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabili- ties to Share- holders	Liabili- ties to the Public	Total Liabili- ties	Loans and Dis- counts	De- posits by the Public
	No.	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000
Bank of Montreal.....	446	1,313	75	1,236	1,311	266	1,170
Bank of Nova Scotia.....	277	466	36	428	464	115	391
Bank of Toronto.....	165	230	18	211	229	59	206
Banque Provinciale du Canada.....	134	93	5	87	92	18	85
Canadian Bank of Commerce.....	487	1,003	50	952	1,002	268	900
Royal Bank.....	622	1,401	55	1,343	1,398	326	1,275
Dominion Bank.....	123	224	14	209	223	67	198
Banque Canadienne Nationale.....	215	235	12	221	233	49	216
Imperial Bank of Canada.....	171	270	15	254	269	73	243
Barclay's Bank (Canada) ²	2	32	2	30	32	4	24
Totals, Oct., 1943.....	—	5,267	282	4,971	5,253	1,245	4,708
Totals, 1942³.....	2,642	4,400	281	4,102	4,383	1,370	3,834
Totals, 1941³.....	2,830	4,008	279	3,712	3,991	1,403	3,465
Totals, 1940³.....	2,846	3,707	279	3,411	3,690	1,324	3,180
Totals, 1939³.....	2,861	3,592	279	3,298	3,578	1,244	3,061
Totals, 1938³.....	2,875	3,349	279	3,057	3,336	1,201	2,824
Totals, 1935³.....	2,978	2,957	278	2,668	2,946	1,276	2,427
Totals, 1930³.....	3,598	3,237	305	2,910	3,215	2,065	2,517
Totals, 1920³.....	4,876	3,064	252	2,784	3,036	1,935	2,438
Totals, 1910³.....	2,621⁴	1,211	179	1,019	1,198	870	910
Totals, 1900³.....	641	460	98	356	454	279	305

¹ As at Dec. 31 of previous year. Does not include sub-agencies.
menced operations in Canada in September, 1929.

² Barclay's Bank com-
menced operations in Canada in September, 1929.

³ Averages from the respective monthly
statements, except in the case of the numbers of branches in Canada and abroad, which are as at
Dec. 31.

⁴ 1911.

Payroll Line-Up at the Alaska Highway Sub-agency of a Dawson City Branch Bank.
Courtesy, Canadian Bank of Commerce



The banks of Canada had among them, at the beginning of 1943, 135 branches (not including sub-agencies) in foreign countries, mainly in Newfoundland, the West Indies, Central and South America.

Bank Clearings and Bank Debits.—Inter-bank transactions recorded through the clearing houses form a valuable indication of the trend of business. However, they do not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens the total volume of clearings. Again, head-office clearings have been effected through the Bank of Canada since Mar. 11, 1935, and this has tended to increase exchanges compared with previous years. For these reasons, a record of cheques debited to accounts at all branches at clearing-house centres is considered to possess greater reliability as a barometer of economic conditions. From 1929 there was a steady decline to the 1932 level of \$25,844,000,000, but in the next four years the movement was generally upward, reaching \$35,929,000,000 in 1936. In 1937 and 1938 there were recessions, a slight increase was shown for 1939, but for 1940 the increase for the year amounted to 9 p.c., and in 1941 and 1942 the annual increases over the preceding years amounted to 14 p.c. and 16 p.c., respectively. Cheque transactions were \$38,378,000,000 in the first nine months of 1943, representing a gain of 18.8 p.c. over the same period of the preceding year. The economic expansion, due mainly to war production, was the chief cause of the acceleration in deposit turnover.

Bank Debits at the Clearing-House Centres, by Economic Areas, 1938-42

Economic Area	1938	1939	1940	1941	1942
	\$	\$	\$	\$	\$
Maritime Provinces.....	639,682,953	679,947,972	824,489,836	940,712,152	1,075,736,890
Quebec.....	9,965,182,391	9,820,399,452	9,973,060,607	11,068,666,580	12,751,093,627
Ontario.....	13,810,063,008	13,618,490,448	15,384,403,480	18,214,788,841	22,136,164,250
Prairie Provinces.....	4,572,383,521	5,478,229,879	6,118,407,201	6,591,645,027	6,722,376,622
British Columbia.....	1,937,050,856	2,020,284,086	2,137,113,355	2,427,144,584	2,840,882,813
Totals.....	30,924,362,732	31,617,351,831	34,437,474,479	39,242,957,184	45,526,254,202

Insurance

Life Insurance.—The life insurance business was introduced into Canada by companies from the British Isles and the United States of America about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 41 active companies registered by the Dominion and a few provincial companies in 1942. Of the 41 active companies registered by the Dominion, 28 were Canadian, 3 British, and 10 foreign.

As a result of the adaptation of life insurance policies to the needs of the public, and of the growing wealth of the country, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion registered companies, was only \$35,680,000 as compared with approximately \$7,876,000,000 at the end of 1942. This latter figure was equal to \$684.47 per head of population. In addition, there was \$196,000,000 of fraternal insurance in force by Dominion licensees and \$187,000,000 of insurance in force by provincial licensees.

Thus the total life insurance in force in the Dominion at the end of 1942 was approximately \$8,259,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from \$90,000,000 in 1920 to \$221,000,000 in 1930, but decreased to \$216,000,000 in 1942.

Fire Insurance.*—Fire insurance in Canada began with the establishment of agencies by British fire insurance companies. These agencies were usually situated in the seaports and operated by local merchants. The oldest existing agency of a British company is that of the Phoenix Fire Office of London, now the Phoenix Assurance Co., Ltd., which opened at Montreal in 1804.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is obtainable. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the Province of Nova Scotia until 1919, when it was granted a Dominion licence.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1942, shows that at that date there were 263 fire insurance companies doing business in Canada under Dominion licences, of which 58 were Canadian, 70 were British, and 135 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British, and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 78 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force is due, no doubt, partly to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance totalling \$411,564,271; by 1900, the one-thousand-million-dollar mark had almost been reached, and by 1930, the total stood at \$9,672,997,000. At the end of 1942, besides \$12,565,212,694 of fire insurance in force in companies with Dominion licences, there was also \$1,528,390,541 in force in companies with provincial licences, or about \$14,084,689,487 in force with companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, public liability and employers' liability); aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery; guarantee; hail; inland transportation; live stock; personal property; plate glass; real property; sickness; sprinkler leakage; theft; title; weather and windstorm. Whereas, in 1880, 18 companies were licensed for such insurance, in 1942 there were 267 companies, of which 59 were Canadian, 72 British and 136 foreign.

The total net premium income of Dominion-registered companies for 1942 was \$49,427,756 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past twenty-one years although decreases were shown for a few years prior to 1935, there has been an increase each year from 1935 to 1941; in 1942 there was a decrease over 1941 in automobile premium income. As recently

*1942 figures are from the Insurance Abstract. 1942.

The Victory Nickel Gets Its Colouring.—The gold colour is obtained by the process of acid-dipping followed by a wash in aluminum colanders. *Below:* The "Tombac" Five-Cent Piece Coined in January, 1943.—On the reverse side, the morse code, which reads clockwise from the bottom centre, symbolizes the slogan "We win when we work willingly".

Courtesy, National Film Board and Royal Canadian Mint

as 1910, the premium income of companies doing an automobile insurance business was only \$80,466; in 1916 it was \$909,503 and in 1942, \$20,292,516. The premium income of combined accident and sickness insurance came second with \$5,847,877. Personal property insurance was third in 1942 with \$3,412,987. The premium income of all accident and sickness insurance combined totalled \$15,991,544.

Canadian Government Annuities.—The Government Annuities Act authorizes the issue of Government annuities in order to encourage the people of Canada to provide, during the earning periods of their lives, for old age. A Canadian Government annuity is a yearly income of from \$10 to \$1,200, either payable for life, or guaranteed for 10, 15 or 20 years and payable for life thereafter. Annuities may be either deferred or immediate, and may be purchased individually or by associated groups operating under retirement plans.

From the inception of the Act until Mar. 31, 1943, the total number of individual annuity contracts and certificates under group contracts issued was 90,350. The net receipts for the entire period totalled \$212,150,686.



On Mar. 31, 1943, there were in effect 81,627 contracts and certificates. Annuity was payable under 26,361 of these and annuity was still deferred under 55,266. The total amount of annuity payable under the vested contracts was \$10,451,286 and the value of outstanding annuities, both immediate and deferred, was \$190,298,479, this being also the balance at credit of the Annuities Fund as of Mar. 31, 1943.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgages on real estate, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies under provincial charters, the majority operate largely in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. In 1942 there were 43 loan companies that reported, with a paid-up capital of \$36,013,844 (Dominion companies \$19,038,552 and provincial companies \$16,975,292).

The reserve funds of all real-estate-mortgage loan companies at the end of 1942 were \$22,914,797 (Dominion companies \$13,446,952 and provincial companies \$9,467,845); liabilities to the public \$123,007,266 (Dominion companies \$92,976,410 and provincial companies \$30,030,856); and liabilities to shareholders \$61,926,181 (Dominion companies \$33,736,964 and provincial companies \$28,189,217).

Trust companies act as executors, trustees, and administrators under wills or, by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy.

The aggregate total assets of the trust companies of Canada at the end of 1942 were \$2,961,450,303 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,735,788,564 in 1942) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1942 amounted to \$348,250,993 and of provincial companies to \$2,613,199,310.

Small Loans Companies and Money-Lenders

The small loans companies, 3 in number and incorporated in recent years by the Parliament of Canada, make small loans of \$500 or less on the promissory notes of borrowers, additionally secured, in most cases, by endorsements or chattel mortgages. Such companies, at the end of 1942, had an aggregate paid-up capital of \$3,734,250; reserve funds, \$594,589; borrowed money, \$2,572,615; other liabilities, \$2,158,808; small loans made, \$16,797,124; small loans balances, \$8,485,589.

On Jan. 1, 1940, the Small Loans Act, 1939 (c. 23, 3 George VI) passed by the Parliament of Canada, came into force under which licensed money-lenders making personal loans of \$500 or less are limited to a rate of cost of loan of 2 p.c. per month on outstanding balances and unlicensed lenders to a rate of 12 p.c. per annum, including interest and charges of every description. As at Dec. 31, 1942, there were 69 licences issued under the Small Loans Act, 1939, of which 3 were issued to small loans companies and 66 to money-lenders. The 66 money-lenders made personal loans in 1942 of \$8,838,864 and at the end of that year had outstanding small loans balances of \$4,704,257.

CHAPTER XVII

Education

Canada's constitution assigns public education, except in the case of the native Indian population, to the jurisdiction of the Provincial Governments. A system of public elementary and secondary education, financed mainly by local school authorities (of which there are about 23,500), but assisted by provincial grants, has developed in each province. Since 1913 the Dominion Government has provided certain grants to the provinces for education—first, in aid of agricultural instruction; later, technical education and, since 1937, for the training of unemployed youth. Yet, in spite of provincial and Dominion assistance, more than 80 p.c. of the cost of operating the schools is met by local school authorities, the source of revenue being almost entirely by taxation on real estate.

There are some private schools in all provinces, i.e., schools that are not conducted by publicly elected or publicly appointed boards, and not financed out of public money, but their enrolment amounts to only about 4 p.c. of the total. In the realm of higher education, six provinces have each a provincially supported university and the remaining three have each one or more colleges supported by provincial funds, but in most of them there is a considerable number of students in private, endowed, or denominational colleges.

Summary Statistics of Education in Canada, 1941

NOTE.—Figures in even hundreds are approximate only.

Type of School or Course	Institutions	Pupils	Teachers	Expenditure
	No.	No.	No.	\$
Provincially Controlled Schools—				
Ordinary and technical day schools.....	32,800	2,082,487	76,350	
Evening schools.....	431	93,944	2,525	
Correspondence courses.....	8	23,568	350	
Special schools.....	20	5,088	500	
Normal schools.....	81	6,468	882	
				129,000,000
Privately Controlled Schools—				
Ordinary day schools.....	853	89,798	4,976	
Business training schools.....	184	19,356	656	
				5,600,000
Dominion Indian Schools.....	370	17,425	580	1,908,274
Universities and Colleges—				
Preparatory courses.....	60 ¹	19,885	1,369	
Courses of university standard.....	155	48,835		
Other courses at university.....	10 ¹	40,674	5,198	
				21,000,000
Totals.....	35,000	2,447,528	93,000	156,500,000

¹ Includes only affiliated schools that are not enumerated in "Courses of university standard".

The Schools in War-time

Schools that opened in Canada for the school year 1943-44 were somewhat depleted as to both staff and students but as compared with many other countries, most of them did open and were able to carry on without danger to the health and safety of the children.



Listening to the CBC
School Broadcasts in
the Class Room.

*Courtesy, Canadian
Broadcasting
Corporation*

Some, particularly high schools, opened a few weeks late in order that the older children might help with the harvest and related seasonal industries. Older pupils are fewer than in normal years—at ages 18 and over, not more than half as numerous. At all ages over 14 years there is a considerable depletion in numbers, alike among girls and boys. In 1942-43 the enrolment of these older children was 20 p.c. less than four years earlier. Opportunities for employment of urban children and the need for farm children to help at home seem to have been the main reasons.

In recent years there have been two important compulsory school-attendance Acts. An Act of 1941 in New Brunswick abolished "local option" in the matter of obligatory attendance and made it universal in the Province. An Act of 1943 in Quebec made school attendance compulsory in that Province for the first time.

Against the reduced school enrolment the great volume of technical teaching being done within the Armed Forces and under the War Emergency Training Program must be considered (see p. 148).

Teachers as well as pupils have left the schools in large numbers to join the Armed Forces or to enter other employment. This movement became so serious that an Order in Council was passed in June, 1943, "freezing" teachers in their profession. It provides that no person presently engaged as a teacher in a school, college or university which is not carried on for gain, can leave teaching except for active service in the Armed Forces or employment in agriculture unless by special permit from a Selective Service Officer.

Objection to this measure was taken by the Canadian Teachers' Federation, particularly on account of low salary levels prevailing in rural schools and the absence of any legal obligation on the part of school boards to pay the cost-of-living bonus that is general in industry. It was pointed out that average monthly salaries for the teachers of one-room schools vary in the different provinces from about \$40 to \$70, rates which make present-day factory workers' earnings particularly attractive.

Learning to Become
a Skilled Workman
in a Technical
School.

*Courtesy, National
Film Board*



Plans for Post-War Education

During 1943 a committee of the Canada and Newfoundland Education Association published a report on "educational needs in the Dominion of Canada", recommending goals to be striven for in the years immediately ahead. Raising the level of teachers' salaries was seen as the need requiring the greatest financial outlay and other expenditures for the equalization of rural and urban educational opportunity were seen as the second greatest. Large outlays for health services through the schools came third, and the establishment of special classes for exceptional children, fourth. Altogether, it was considered that present annual expenditures on schools should be doubled and that, in addition, substantial capital expenditures were required for new building and the replacement of unsatisfactory plant.

Important recommendations affecting the universities in particular were the establishment of scholarship systems and the establishment of 150 junior colleges at suitable locations throughout the country. The field of university education, as such, was not included in the survey.

In the matter of education beyond the usual ages of school leaving, the two major recommendations were: greatly extended public library service; and compulsory school attendance to the age of 16 and part-time attendance to the age of 18. It was considered, too, that the work of the Canadian Association for Adult Education should receive increased support.

Copies of the 80-page document may be obtained from the Secretary, Canada and Newfoundland Education Association, Ontario College of Education, Toronto.

Education for the Armed Forces

With the establishment of a Directorate of Army Education in the spring of 1943, all three Armed Services became interested in the promotion of general education. An Education Section was established in the R.C.A.F. in 1942, and a Department of Naval Education in 1941. All three agencies draw upon the assistance of the Canadian Legion Educational Services, organized in the winter of 1939-40.

The typical Education Officer in the Services is a university graduate with teaching experience in secondary schools. Duties vary somewhat between the Services, but include in all cases the organization of discussion groups and some responsibility for making educational books available. Through the medium of Canadian Legion Educational Services it is now possible for the Education Officer to direct the men of his unit to correspondence courses at all levels from the most elementary to university graduation. Provincial Departments of Education and universities in all parts of the country have co-operated to make this possible.

By the end of 1943 something like 100,000 men had been discharged from the Armed Forces. Provision for them, and for those who will be demobilized later, to resume their education is being administered by the Rehabilitation Branch of the Department of Pensions and National Health. It is anticipated that the plan will result in a heavy post-war enrolment, especially in universities and technical schools.

The Universities

University enrolment has been characterized by increases in Engineering and Applied Science, Medicine and Dentistry in which there has been acceleration of courses and governmental financial aid to students. Enrolment in Arts Colleges is reduced and their staffs have been depleted by loans to Government Departments for the duration of the War, but except at the post-graduate level approximately the usual range of work is being carried on. Their situation reflects the policy of the Government expressed in a published letter of the Prime Minister to the Canadian Social Science Research Council in 1943: "I wish to express on behalf of the Government our recognition of the importance to our future as a nation, and to the cause for which we are fighting, of the maintenance of the liberal tradition of education in the humanities".

Courses of training for the Armed Services have been conducted on many of the university campuses, and numerous university residences have been placed at their disposal.

Education by Radio

One of the significant developments in the field of adult education during the past two or three years has been the increased organized use of radio as a medium. The National Farm Radio Forum, sponsored jointly by the Canadian Broadcasting Corporation, the Canadian Association for Adult Education and the Canadian Federation of Agriculture, is reported to have had something like 2,000 organized listening groups throughout the country during the winter of 1942-43. Study material is supplied to the groups in advance of the broadcasts. A series of broadcasts on the general theme of post-war reconstruction, in the present winter, has enlisted the co-operation of numerous national organizations.

Radio is coming into increased use, too, in the schools through the co-operation of the CBC and the Provincial Departments of Education. For the first time in the winter of 1942-43 there was a series of national school broadcasts. At the annual meeting of the Canada and Newfoundland Education Association in 1943 it was proposed that a National Advisory Council on School Broadcasting should be established.

Public Libraries

The volume of public library reading is less than it was ten years ago, and has declined particularly in adult fiction during the war years. One reason for the wartime decline lies in the number of readers who, by joining the Armed Services, have gone out of reach of the libraries—to training centres, defence areas, overseas, etc. Moreover, there has been no general plan by means of which librarians could provide a compensating service to enlisted readers. Some library boards out of local resources have made special attempts to meet the library problem of training centres in or near their cities, but in the main the provision of reading material for service personnel has been left to voluntary agencies. Other reasons for the decline in public library reading lie in the increased facilities offered by bookstores and department stores in the larger cities where for a small fee the latest fiction is made available. The magazine and newspaper press, too, is steadily increasing the standard of its fiction and educational material, so that it would not be correct to conclude that reading is less popular or less widely indulged in than formerly.

The use of public libraries by children shows an increase. The newer school programs of study, placing less reliance on a few text books and recommending access to a wide selection of books, have much to do with this. Many libraries make provision for story hours or classes to be conducted on the library premises, while others have members of the library staff visit the schools.

Selective Service orders of the summer of 1943, concerning compulsory transfer of workers to more essential employment, are reported by some of the larger libraries to have made it extremely difficult for them to maintain service. Under normal circumstances, Canadian public libraries circulate fewer than half as many books per capita of the total population as do libraries in the United States and Britain. Under present circumstances the difference seems likely to become wider.

Pupils in an Ontario Secondary School Taking Training in Aerial Navigation.

Courtesy, Toronto Star Newspaper Service





His Majesty the King, with General MacNaughton and the Hon. Vincent Massey, High Commissioner for Canada, reviewing Troops and Nursing Sisters of one of the Canadian Corps in England.

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MEMORANDA

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IN August 1943, Franklin Delano Roosevelt visited Ottawa. He was the first President of the United States to officially visit the Capital City of the Dominion while holding office, and is shown in the picture with the Governor General of Canada at Government House, Ottawa. Here he received the Honorary Degree of LL.D. from London University, England.

The Eighth Anglo-American War Conference, Quebec, and the Montreal UNRRA Conference

NEVER before in its history has Canada been the scene of two meetings of such deep significance to the whole world as those that took place in sequence at the cities of Quebec and Montreal during the early autumn of 1944.

The Conferences, superficially unrelated, were in essence deeply linked together—the purpose of the one centred on bringing about the destruction of the enemy in the Pacific; that of the other was to consider means of restoring the broken countries of Europe as they are liberated.

The oneness of the modern world and its problems, and the growing need for development of an international consciousness has been emphasized by the deep tragedy of two wars within the short space of a quarter of a century. It is a sad reflection that about one-third of the thirty-year period immediately passed has been occupied in a frenzy of fighting, slaughter, and the destruction of the work of centuries of upbuilding. The Conferences that took place in Canada in early September, 1944, are an omen that the coming peace will find ways and means of bettering co-operation between all peoples for the good of all people.

FORMER ANGLO-AMERICAN CONFERENCES

1. Atlantic Conference	- - -	Aug. 14, 1941
2. Washington Conference	-	Dec. 22-28, 1941
3. Washington Conference	- - -	June 18, 1942
4. Casablanca Conference	- - -	Jan. 14-24, 1943
5. Washington Conference	- - -	May 11, 1943
6. Quebec Conference	- - -	Aug. 10-24, 1943
7. Cairo Conference	- - -	Nov. 22-26, 1943

CANADA 1945

The Official Handbook
of Present Conditions
and Recent Progress



Published by Authority of
THE HON. JAMES A. MacKINNON, M.P.
Minister of Trade and Commerce

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foreword

THE growth in popularity of this Handbook since the series was placed on an annual basis in 1930; its extensive use by official and semi-official bodies in regular and special editions; its distribution in large numbers at international exhibitions; its translation into various languages for use in different parts of the world where Canada is officially represented; and its use, by special permission, in financial and commercial houses for distribution to their clients; all attest to the need that exists for a brief and attractive economic handbook of the Dominion.

The current reports of the Dominion Bureau of Statistics deal in great detail with the subjects of population, production, external and internal trade, transportation, education, etc., but they are intended mainly for those who are specially interested in particular phases of our national life. The *Canada Year Book*, which summarizes these and other official publications, is essentially a book of reference, and is of too detailed a character for wide distribution. The present publication is the result of an effort to survey the current Canadian situation and especially the effect the War has had on Canadian economy—comprehensively but at the same time succinctly—in a popular and attractive form, and at a cost that makes possible its use on a general scale.

Jas. A. MacKinnon

Minister of Trade and Commerce.

OTTAWA, JANUARY 1, 1945

PREFATORY NOTE

This Handbook has been prepared and edited in the Year Book Branch of the Dominion Bureau of Statistics from material that has, in the main, been obtained from the different Branches of the Bureau. In certain special fields information has been kindly contributed by other branches of the Government Service.

The Handbook is planned to cover the general economic situation in Canada, the weight of emphasis being placed from year to year on those aspects that are currently of most importance, since there is not space to deal adequately with all. A review of Canada's War Effort and the Development of the Canadian Economy in 1944 precedes the chapter material. The special article following this review deals with The Iron-Ore Developments at Steep Rock and Their Importance to Canada. It has been specially written for the Handbook by H. C. Rikaby, A.I.M.E., Deputy Minister of Mines for Ontario, Toronto.

S. A. CUDMORE,
Dominion Statistician.

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THIRTEEN FACTS . . .

1. Canada declared war against Germany Sept. 10, 1939. She declared war against Japan on Pearl Harbour Day, Dec. 7, 1941.

2. Of Canada's 11,506,655 population (Census of 1941) over 1,000,000 have entered the Armed Forces, including over 45,000 women. The Armed Forces have taken about 38 p.c. of all Canadian males between the ages of 18 and 45. At the outbreak of war, Canadian Armed Forces totalled 10,200.

3. Of the 1,000,000 Canadians who have entered the Armed Forces, less than 7 p.c. have failed to volunteer for service anywhere in the world.

4. Canadian war industries have employed another 1,000,000 men and women, or about 10 p.c. of total population. Canada ranks fourth among the United Nations as a producer of weapons and war materials, production in 1943 totalling \$2,738,000,000 against \$310,000,000 in 1939-40.

5. Canada is one of the foremost providers of food for the United Nations. About 500,000 men and women have left Canadian farms for the Armed Forces and for war plants, but farm output has increased more than 40 p.c. Food shipped from Canada to Britain in 1943 was 215 p.c. of the 1939 total value; to Africa and Asia, 569 p.c.; to the United States, 259 p.c.

6. All Canadian war costs have been, and are being, met inside Canada, over 60 p.c. by taxes and the balance in war loans subscribed by Canadians; 97 p.c. of the funded debt is held in Canada. Canada has paid cash for every item from the United States since the War began in 1939.

7. Canada has taken no Lend-Lease or similar help. On the contrary, she has extended such help to other United Nations through her Mutual Aid legislation, which is the Canadian version of Lend-Lease. Mutual Aid given by Canada to other nations, plus earlier war-time contributions and financial assistance, amounted to over \$3,400,000,000 at Mar. 31, 1944, and is now approaching \$4,200,000,000. This is close to one-quarter of Canada's total war cost.

about Canada's War Effort

8. Latest Lend-Lease and Mutual Aid official reports were, respectively, for twelve months to Feb. 29, 1944, and for ten months to Mar. 31, 1944. These reports indicate that, in percentage of national incomes, Mutual Aid given by Canada was about 12·4 p.c. and Lend-Lease was about 6·8 p.c. On a per capita basis, Canadians were giving \$7·93 a month in Mutual Aid while Lend-Lease was about \$6·35 a month.

9. First Canadian Army, fighting in northwest Europe under General Crerar, includes a Canadian Corps of three divisions plus corps and army troops. Another Canadian Corps of two divisions and a tank brigade, plus corps and army troops, is fighting in Italy with the British Eighth Army. Canadians have also fought at Hong Kong, Dieppe, the Aleutians, Sicily, and in commando operations.

10. Air attacks on Europe are commonly described as British and American, but Canadians comprise one-quarter of all aircrew under R.A.F. command in Europe and the Mediterranean. The Royal Canadian Air Force has 42 squadrons overseas. For every Canadian in R.C.A.F. aircrew there are another 10 to 11 Canadians in R.A.F. aircrew.

11. The Royal Canadian Navy had 15 ships at the outbreak of war in 1939 and now has over 800—a 53-fold increase. Up to 1944, the R.C.N. did half of North Atlantic convoy protection and during the summer all of it.

12. Canada is now third of the United Nations in naval power and fourth in air power.

13. Canada is the world's foremost producer of nickel, asbestos, platinum, radium, and newsprint paper. She is second in aluminum, wood-pulp, and hydro-electric power. She is now second only to the United States in building cargo ships. She is third in producing copper, lead, and zinc. Since the War began she has increased her output of aluminum by over 500 p.c., pig iron and steel by 98 p.c., pulpwood by 33 p.c., hydro power by 23 p.c. and coal by 13 p.c.



Canada's War Effort and the Development of the Canadian Economy in 1944



The Rt. Hon. W. L. Mackenzie King,
P.C., M.P., Prime Minister
of Canada.

Copyright, Karsh, Ottawa

Canadian ground troops, especially the Canadian First Army who have been helping in the attack on the Western Wall. Their first major action was the capture of Carpiquet which preceded the bloody battle of Caen, pivotal point of Germany's defence system below the Seine. The unrelenting efforts of British and Canadian soldiers in holding the great mass of some of Hitler's best troops at Caen enabled the United States Forces to sweep through Normandy and Brittany (see p. 15).

The First Canadian Army went into battle in the drive from Caen to Falaise, one of the pivotal moves in the French campaign. This opened the way for the Allied advance to the Seine and Paris. In the Allied push through the Lowlands, the Canadian Army was placed on a left flank position and assigned the task of capturing the Channel ports and mopping up enemy pockets along the way. Rouen, Le Havre, Dieppe, Boulogne, Calais, Ostend, all fell before the offensive of the Canadians and units of other nations fighting under Canadian command. But, though the operations of the Army in France and Belgium have been prominently in the public eye, the Royal Canadian Navy and the Royal Canadian Air Force have added to their laurels in equally important, if less spectacular, ways. Details of these operations are given at pp. 13-14 and 15-16. The British Commonwealth Air

The War Effort

The steps taken by Canada immediately on the outbreak of war in September, 1939, to fight Nazism and organize the Canadian economy for an "all-out" war effort, as well as subsequent events up to the end of 1943 are covered in earlier editions of this Handbook.

During 1944 the Allies have pushed the War inside the boundaries of Germany. Driving through Europe sometimes at top speed, sometimes little faster than inch by inch, Allied armies are advancing on the Reich from every direction. With Russia pressing from the east and invading Norway on the north, and other Allied forces attacking from Netherlands, Belgian and French soil, as well as hammering through Italy, Greece and Yugoslavia, the noose is being drawn more tightly around the enemy. Since the beginning of June, 1944, fifteen European capitals have been freed from Nazi domination.

As regards the Canadian Armed Forces, the spotlight has fallen on the work of the



Canadian Soldiers Landing in Normandy.—More than 100 R.C.N. ships and nearly 10,000 Canadian officers and men took part in D-Day operations. The work of the R.C.N. still goes on as men and supplies continue to pour into Europe.

R.C.N. Photo

Training Plan has been one of Canada's most outstanding contributions to the success of Allied air strength. The Plan is to come to an end in March, 1945, and will by then have graduated 224,296 trainees, of whom 163,797 are Canadians.

Canada has taken part in several conferences of world importance during 1944. In April the Canadian Prime Minister went to London to attend the first war-time conference of Commonwealth Prime Ministers. At that meeting Commonwealth affairs were discussed against a background of international world organization and post-war policy. While in London, Prime Minister King addressed a joint session of the two Houses of Parliament.

In September, Quebec was for the second time the scene of a meeting between Prime Minister Churchill and President Roosevelt. They and their combined Chiefs of Staff discussed phases of the war relating to the final overthrow of Germany and the campaign against Japan. Representing Canada as host at the Conference, Prime Minister King also attended the sessions. A special meeting of the War Committee of the Canadian Cabinet was held in Quebec during the Conference so that Mr. Churchill, his advisers, and the British and Canadian Chiefs of Staff could attend to discuss Canada's participation in the Pacific War.

A Canadian representation attended the July conference on world monetary policy which was held at Bretton Woods, New Hampshire. At this conference plans were drawn up for the stabilization of international currency and trade after the War.

Post-war civil aviation was the subject of two important conferences during the autumn. Officials of British Commonwealth Governments met at Montreal to discuss problems relating to establishment of air routes between British Commonwealth countries. Canadian representatives also attended the International Conference on Civil Aviation Problems at Chicago in November, at which Canada presented a draft international agreement which was in effect a compromise between British and United States aims.

During the autumn the United Kingdom, United States, Soviet Union and China sent delegations to Dumbarton Oaks, Washington, D.C., to discuss plans for an international organization for the maintenance of peace and security. Although Canada had no separate representation at the conference, the draft proposals will receive full study by Canada, and the Prime Minister has commended them "to the careful and earnest study of the people of Canada".

In September, 1944, the city of Montreal was the scene of the second session of the Council of the United Nations Relief and Rehabilitation Administration. The Canadian Minister Plenipotentiary at Washington, who headed the Canadian Delegation at the session and was also Chairman of the Committee on Policy, was elected to permanent chairmanship of the session. Of Canada's pledged contribution of \$76,000,000, 90 p.c. will be in the form of a credit for foodstuffs and vital supplies to countries ravaged by the enemy. The form of a large proportion of this contribution has already been arranged, including a cash contribution of \$7,700,000 (Canadian funds).

Canada is also giving help to the United Nations through its Mutual Aid Act which was passed in May, 1943. It provides for the distribution of Canadian war supplies, including war equipment, raw materials and foodstuffs, to the United Nations on the basis of strategic need. Each country receiving Canadian war supplies pays for as much as it can, and the remainder is delivered under Mutual Aid. Separate agreements have been negotiated by Canada with the United Kingdom, Australia, Soviet Russia, China, the Provisional Government of France and India. Included in the \$800,000,000 appropriation for the fiscal year ending Mar. 31, 1945, is Canada's contribution to UNRRA. Mutual Aid expenditures in the year ended Mar. 31, 1944, exceeded \$912,600,000.

Canada's expanding international stature is reflected in the growth of its diplomatic representation abroad. In November, 1943, it was decided to elevate to embassy rank the missions to the United States, Russia, China, and Brazil. During 1944 ambassadors have also been appointed to Chile, Mexico, and Peru. When the Government of Canada, along with the Governments of the United Kingdom and the United States, recognized officially the Government of General Charles de Gaulle in France, the Canadian Mission in Paris was given the status of an embassy. An ambassador has also been appointed to Belgium.

Canada has maintained the position of the United Nations' fourth largest producer of war supplies and is among the leading traders of the world: Canadian economy has been and still is geared to all-out effort. On the home front controls have been continued—controls aimed at maintaining an adequate flow and orderly distribution of essential civilian supplies while holding down consumer prices (see pp. 27-29). Every effort has been made to prevent inflation. From August, 1939, to October, 1944, the over-all increase in the cost of living was 17.7 p.c., but only 2 p.c. of this increase has taken place in the three years since November, 1941, when the general

price ceiling was adopted. Parts of the general stabilization picture have included rationing, heavier taxation, war savings, manpower and wage controls, subsidies, allocations and consumer credit regulations.

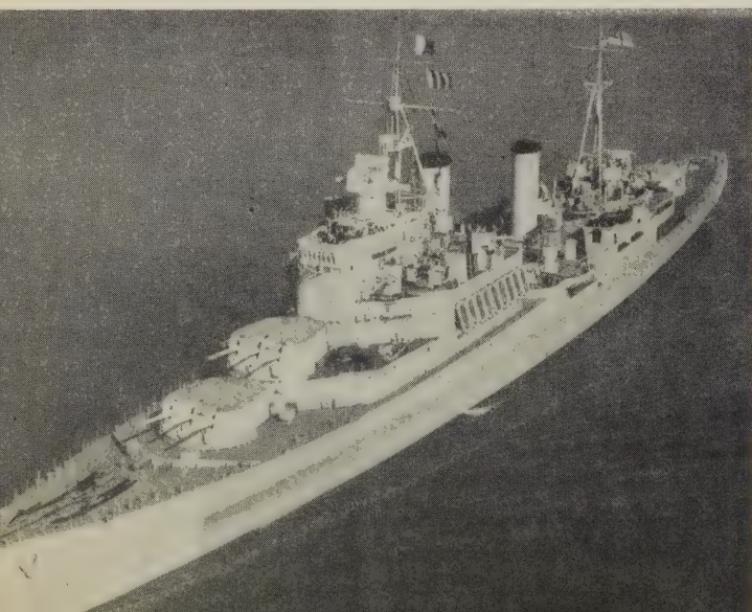
The increasing activity of the Armed Forces and expanding production of equipment and supplies vital to the United Nations have necessitated an increased program of Government spending. Two Victory Loans during 1944 have netted the Government more than \$2,900,000,000.

What is considered to be one of the most advanced and comprehensive rehabilitation programs for men and women in the Armed Forces has been planned and is already being put into operation in Canada. Each of the Services has its personnel counsellors to advise on post-war training and positions available. An extensive scheme for guiding demobilized persons has been worked out, and every man and woman will have the benefit of expert advice before resuming civilian life. A general and extensive system of war service gratuities, rehabilitation grants, re-establishment grants of special living allowances while taking training or further schooling of some kind has also been planned for men and women of the Canadian Forces.

Virtually all the legislation dealt with in the 1944 session of Parliament concerned problems of reconstruction and rehabilitation in the post-war period. Acts were passed which seek to provide increased employment opportunities in the period after the War; to help business, industry, fishing and agriculture in the shift from a war-time to a peace-time economy; to provide additional measures of social welfare and improve the administration of those already on the Statute Book; to broaden the veterans' rehabilitation and re-establishment program; and finally to give an indication of Canada's willingness to make certain international commitments as a member of the United Nations.

Legislation was also passed for the setting up of three new Government Departments (see pp. 37-38).

Details of the various developments of Canada's war effort are given in the following sections of this Introduction.



H.M.C.S. *Uganda*,
Commissioned as a
ship of the Royal
Canadian Navy at
a Ceremony held in
New York Harbour
on Trafalgar Day,
Oct. 22, 1944.—Origi-
nally com-
missioned in 1942,
this 8,000-ton
cruiser was trans-
ferred by the Royal
Navy after gallant
war services. A
ship of the Mauri-
tius class, she is
549 feet long,
mounts 12 six-inch
guns, 8 four-inch
anti-aircraft guns,
16 smaller guns and
has 3 aircraft with
one catapult.

R.C.N. Photo

H.M.C.S. *Assiniboine*, a "River Class" destroyer, laying a smoke screen during the bombardment of the French Coast.



R.C.N. Photo

The Navy.—Primarily concerned in the opening years of the War with the protection of North Atlantic shipping, the year 1944 saw the Royal Canadian Navy reach a stage in its expansion which enabled it not only to carry out its major purpose of escorting convoys on a greater scale than ever before, but also to assume the offensive and join in direct attacks on the enemy.

Canada's share in history's greatest sea-borne invasion—that of the Normandy Coast—was more than 100 ships and nearly 10,000 officers and men. Canadian mine-sweeping flotillas cleared mine fields off the coast of Normandy; Canadian infantry landing ships, large infantry landing craft and smaller assault landing craft carried invasion troops to the beaches; Canadian corvettes and destroyers helped guard the invasion convoys from attack.

Even before the invasion, powerful Canadian destroyers of the Tribal and Fleet classes harassed enemy shipping in the English Channel and European coastal waters in daring pre-invasion sweeps. On D-Day Canadian destroyers were present to shell enemy shore installations. Courageous and persistent attacks were carried out before and after D-Day on German coastal shipping and war vessels by Canadian-manned motor torpedo-boat flotillas.

During the summer months, the Royal Canadian Navy provided 100 p.c. of close escort for all North America-United Kingdom trade convoys and in addition provided warships which made up approximately 30 p.c. of all support force units in the North Atlantic. Canadian escort vessels escorted safely to the United Kingdom the largest convoy of the War, carrying more than 1,000,000 tons of cargo.

An important unit (the first of two cruisers) added to the Royal Canadian Navy in the autumn of 1944 was the cruiser, H.M.C.S. *Uganda*, of 8,000 tons, stated by naval authorities, at the time of her commissioning as a Canadian warship, to be among the world's most advanced and up-to-the-minute medium cruisers.



Members of the Women's Royal Canadian Naval Service Decoding Secret Signals.—Through the hands of these "Wrens" pass secret signals affecting the Battle of the Atlantic and the operations of the Royal Canadian Navy.

R.C.N. Photo

A further step in the Canadian Navy's development was the manning for the Royal Navy of two escort carriers, the 9,000-ton H.M.S. *Nabob* and the 14,500-ton H.M.S. *Puncher*. The year saw the first group of officers of the Royal Canadian Naval Volunteer Reserve trained as pilots for service with the Royal Canadian Naval Air Branch.

The Royal Canadian Navy had in commission over 800 ships, of which more than 350 were classed as fighting ships. Its manpower had risen to over 85,000 officers and ratings and there were 5,200 women in the Women's Royal Canadian Naval Service.

Ships of Canada's Navy ranged far during 1944, seeing action in the Arctic, the North Atlantic, the Mediterranean and the Aegean Sea. Plans were well advanced for participation in the war in the Pacific with prospects that the Navy's strength would be increased by the addition of another medium cruiser and possibly swifter and more powerful aircraft carriers.

During 1944, the losses included: the Tribal class destroyer, *Athabaskan*, lost in a Channel action; the frigate *Valleyfield*, sunk on Atlantic convoy duty; two corvettes, the *Regina* and the *Alberni*, sunk on invasion convoy duty in the English Channel, and the corvette *Shawinigan*, lost in the North Atlantic with her entire complement missing or dead. Losses since the outbreak of war totalled 19 ships.

Casualties to Nov. 6, included 1,174 killed on active service; 204 other deaths, 226 missing, 87 prisoners of war and 363 wounded or injured.

The Army.—The year 1944 was one of tremendous achievement by Canadian arms. By the end of July every unit of the Canadian Army overseas was in action, in Italy or on the Western Front.

On D-Day, June 6, two days after Canadian troops in Italy had participated in the capture of Rome, thousands of Britain-based Canadian assault troops splashed ashore on the Normandy beaches in the forefront of the terrific Allied onslaught which opened the Western Front. On their heels came the main body of the Britain-based Canadian Army, and during the ensuing weeks Canadian soldiers by their tens of thousands, straining for action after four and one-half years of enforced waiting, streamed across the Channel. By July 26 every unit of the Canadian Army Overseas was in action.

From the very beginning Canadian troops joined in some of the toughest, least spectacular yet most vital assignments of the campaign. Such an assignment occurred at Caen, where Canadians, posted with the British on the Allied left flank, successfully tied up, at heavy cost to themselves, the bulk of the German armour. This action permitted the United States forces on the right flank to break through the less strongly held German lines west of St. Lo, on July 25, in the spectacular cross-country dash which swept the enemy out of Normandy and spearheaded the swift advance that brought the Allies into Paris 30 days later.

Of the critical task of holding the German troops in the Caen area—the hinge of the Nazi defence system south of the Seine—General Eisenhower, Allied Supreme Commander, admitted that the British and Canadians had faced the most formidable of the enemy's defences. Every foot won at Caen, he said, was as important as 10 miles won elsewhere.

During the August drive from Caen to Falaise, the First Canadian Army—officially announced on August 7 as the first completely separate army ever to represent Canada in the field—experienced its first battle action as a unit, when it smashed German control of the area, joined forces with the United States units driving north from Le Mans, and helped make possible the trapping and resounding defeat of the Nazi Seventh Army. In this action the three divisions of the Second Canadian Corps, made up of the Second Infantry Division, famed for its Dieppe raid of August, 1942, the Third Infantry Division and the Fourth Armoured Division, fought together for the first time.

Also fighting as part of the First Canadian Army, under the command of Lieutenant-General H. D. G. Crerar, C.B., D.S.O., were a British infantry division, a Polish armoured division, the Princess Irene Brigade from the Netherlands, and a force of Belgians. Many of the Netherlands and Belgian troops were trained in Canada.

By late autumn, the First Canadian Army had battered its way across northern France, through Belgium and into the Netherlands. It had overrun the so-called "rocket coast" and put more than 300 flying-bomb sites out of action in France alone. It had captured the vital Channel ports of Le Havre, Ostend, Dieppe (where 3,350 Canadians were killed, wounded or captured in the famous raid of two years before), Boulogne and Calais. Since its first battle action in July, it had taken 73,000

Canadian Troops Marching Through Dieppe.—It was a proud day for the Canadians when the Germans were driven from Dieppe and their comrades who died there in the raid of 1942 were avenged.

Canadian Army Photo





A Canadian General Hospital under Canvas on the Western Front.—Canadian nursing sisters "on fatigue" carrying beds into the wards.

Canadian Army Photo

prisoners. With the capture of the Channel ports the First Canadian Army completed another of its important assignments, that of assuring the over-water supply life-line, crucial to the success of the Allied winter campaign against Germany proper.

During October, the Canadian Army was engaged for the most part in mopping up operations along the coast. These included laying seige to Dunkirk, the only territory in the Canadian sector still in enemy hands, cleaning out pockets of enemy resistance and reducing isolated artillery strongpoints in the Scheldt estuary which were preventing the Allies' full use of the great port of Antwerp, captured intact by the British early in September.

In Italy, meantime, the battle-scarred First Canadian Corps continued to fight as part of the famed British Eighth Army which it had joined during the invasion of Sicily some sixteen months before. Made up of the Fifth Canadian Armoured and First Canadian Infantry Divisions and the First Canadian Armoured Brigade, it had been in the forefront of almost every important engagement in the long, bitterly contested advance up the Italian mainland.

In addition to the First Canadian Corps, other Canadians were fighting in Italy with the U.S. Fifth Army and as part of the Canadian-U.S. Special Service Force comprised of highly trained commando-paratroops, specialists in all phases of rough-and-tumble and scientific warfare.

On May 21, Canadian troops were in the headlines when they helped spearhead the final all-out assault which smashed a gap in the formidable Adolph Hitler Line, forced the Melfa River and two weeks later, on June 4, joined the U.S. troops of the Fifth Army in the capture of Rome. The fall of Arezzo to Canadian troops on July 16, followed by the occupation of Florence a month later, brought the Allied Armies two-thirds of the way to their goal.

During the latter part of August and beginning of September the Canadians in the Adriatic sector helped launch the great attack that smashed the Germans' famed Gothic Line, and plunged on to play a leading part in the capture of Rimini, the eastern hinge of the German defence system, where some of the bloodiest, bitterest, house-to-house fighting of the entire Italian campaign took place.

By the end of October the Canadians had forced their way across the historic Rubicon River, and early in November were stubbornly fighting their way mile by mile toward the Lombardy Plain. In seventeen months of almost continuous fighting they had pushed the enemy back nearly 700 miles.

Figures at October, 1944, showed the strength of the Canadian Army to be in excess of 455,000 men. Figures for the Canadian Women's Army Corps, which celebrated its third anniversary on Aug. 29, 1944, were given as being in excess of 15,000—an increase of 1,000 over the previous year.

The Air Force.—The British Commonwealth Air Training Plan, born Dec. 16, 1939, to train 20,864 airmen per annum, a figure later raised to 52,503 per annum, reached and outdistanced its objective. Air superiority over the enemy was assured early in the conflict and now this immense plan is moving towards its conclusion after training nearly 115,000 aircrew up to Sept. 1, 1944. The spring of 1945 will see the last of BCATP students, pilots, navigators, observers, bomb aimers, wireless operators, air gunners and flight engineers, completing their final training. Current rate of production of approximately 39,000 per annum will diminish until next spring when it will reach 21,000 per annum.

Canada's Department of National Defence for Air, assisted by a Supervisory Board at Ottawa comprising three Canadian Cabinet Ministers, and by representatives of the participating Governments, the Deputy Minister of National Defence for Air and the Chief of the Air Staff, make up the administering body of the Plan. They have ensured that the R.C.A.F. is in readiness to meet the trends of war as they can be determined and that a sufficient reserve of aircrew is available for any emergency. But in the progressive reduction policy affected in the Plan, it was necessary to release to the Canadian Army approximately 4,200 pre-aircrew recruits.

Canada's part in the BCATP, which was renewed in 1942 and is operative until Mar. 31, 1945, has involved an expenditure of \$1,631,000,000 since its inception in 1939. Of this amount \$442,500,000 remains recoverable from the United Kingdom. At the 1944 session, Parliament was asked for \$387,937,507 to carry on training during 1944-45 compared with the previous year's \$309,900,000. The appropriation for overseas war establishment for 1944-45 was \$463,157,142, an increase of \$58,000,000 over that for 1943-44.

At the peak of the BCATP the number of training units totalled 154 and had twice the capacity originally intended. The gradual diminution of the Plan has

Her Majesty Queen Elizabeth Inspecting the Women's Division of the R.C.A.F. Bomber Group in Britain.

R.C.A.F. Photo





Mobile Operations Room of a R.C.A.F. Typhoon Wing in France.—These headquarters were set up against a backdrop of heat-twisted girders, skeleton of a Luftwaffe hangar destroyed by Allied bombers. During the London blitz this airfield was a base for German bombers.

R.C.A.F. Photo

caused several of these to be closed. From a peace-time force of 4,500 officers and men, the R.C.A.F. has expanded to more than 200,000. Enlistments in the Women's Division alone totalled more than 16,500. There are more than 40 R.C.A.F. squadrons in operation and approximately eight times as many members of the R.C.A.F. are serving in R.A.F. units. The largest purely R.C.A.F. formation operating in the European theatre is the Canadian Bomber Group, equipped with 4-engined Lancaster and Halifax aircraft. In September, 1944, the R.C.A.F. Bomber Group dropped the heaviest load of bombs and made the greatest number of sorties of any Group in the British Isles.

In the gigantic invasion operation begun June 6, 1944, Canadian fighter-plane units formed part of the aerial umbrella that protected the invading forces. Heavy bombers of the Coastal Command manned by Canadians were assigned the task of preventing enemy U-boats and E-boats from entering the invasion convoy's outer ring. A tremendous air armada of Canadians battered enemy shore installations, communications centres and transport lines during the "softening up" action of the previous months. In the second week of invasion, closely following the invading forces, whole Canadian fighter squadrons of the tactical air force moved into France and with their new mobile airfields kept pace with the advancing Allies. In other parts of the globe—in North Africa, Malta, Sicily, over the beachheads of Anzio and Cassino in Italy, in the heat of Burma, Ceylon, India, in the cold of Kiska in the Aleutians—members of the R.C.A.F. have acquitted themselves honourably. For three years a steadily enlarging nuclear strength in the Far East has been growing against the day when the air battle in that theatre will become a major one.

With the progress of the War, the menace to Canada's coast lines has been minimized and this is reflected in the reduction of expenditure from \$309,900,000 in 1943-44 to \$238,905,351 in 1944-45. Operations over the North Atlantic, however,

are being maintained with Liberator bombers from R.C.A.F. East Coast, Iceland and Newfoundland stations, acting as a constant menace to enemy U-boats, providing the aerial umbrella over Allied convoys and reducing shipping losses. These operations have been carried out in conjunction with the Royal Canadian Navy.

Honours and Decorations Awarded to Members of the Canadian Forces and to Civilians.—Awards to Naval, Army and Air Force personnel and to civilians for the period from the outbreak of war to Dec. 31, 1944, are given in the tabulation below. The Naval awards include those to Royal Canadian Navy personnel on loan to the Royal Navy. Awards for efficiency (with the exception of the Canadian Efficiency Medal), long service, good conduct and mention in despatches and commendations are not shown, nor are foreign awards to Canadian servicemen.

Honours and Decorations Awarded to Members of the Canadian Forces and to Civilians from the Outbreak of War to Dec. 31, 1944

Honour or Decoration	Navy	Army	Air Force		Civil	Total
			R.C.A.F.	Canadians with R.A.F. ¹		
V.C.	—	5	1	—	—	6
G.C.	—	3	3	1	—	7
C.B.	4	17	11	3	—	35
C.M.G.	—	3	—	—	15	18
C.B.E.	10	55	14	2	21	102
D.S.O.	9	126	51	11	—	197
1st Bar to D.S.O.	—	5	4	—	—	9
2nd Bar to D.S.O.	—	1	—	—	—	1
O.B.E.	42	156	27	3	80	308
I.S.O.	—	—	—	—	10	10
M.B.E.	39	367	79	2	158	645
R.R.C.	—	19	—	—	—	19
D.S.C.	82	—	—	1	—	83
1st Bar to D.S.C.	11	—	—	—	—	11
2nd Bar to D.S.C.	2	—	—	—	—	2
M.C.	—	245	1	2	—	248
1st Bar to M.C.	—	5	—	—	—	5
2nd Bar to M.C.	—	1	—	—	—	1
D.F.C.	—	—	2,069	170	—	2,239
Bar to D.F.C.	—	—	97	21	—	118
A.F.C.	—	—	159	13	—	172
A.R.R.C.	3	39	8	—	—	50
MEDALS—						
Air Force	—	—	39	1	—	40
Albert.	1	—	—	—	—	1
British Empire.	67	163	104	1	33	368
Canadian Efficiency.	—	—	3	—	—	3
1st Clasp to Canadian Efficiency.	—	—	1	—	—	1
Conspicuous Gallantry.	2	—	10	—	—	12
Distinguished Conduct.	—	52	—	—	—	52
Bar to D.C.M.	—	1	—	—	—	1
Distinguished Flying.	—	—	414	22	—	436
Bar to D.F.M.	—	—	—	1	—	1
Distinguished Service.	79	—	—	—	—	79
Bar to Distinguished Service.	2	—	—	—	—	2
George.	7	5	17	1	2	32
Bar to George.	2	—	—	—	—	2
King's Police and Fire Services.	—	—	—	—	18	18
Military.	—	463	1	—	—	464
Bar to M.M.	—	2	—	—	—	2
Naval General Service with Bar "Palestine".	6	—	—	—	—	6
Polar (silver).	—	—	—	—	8	8
Royal Humane Society.	4	—	—	—	—	4

¹ Includes honours and awards to Canadians actually enlisted or appointed to commissions in the R.A.F.

The Economic Effort and Its Organization

Modern war requires the full and effective mobilization of the nation's economic resources to equip and supply the fighting forces and to maintain the civil population while as much as possible of the national effort is devoted to the prosecution of the War. For Canada this implies not only the provision of men and materials for the fighting forces but the furnishing of food, materials, munitions and equipment to Britain and other Allies. The demands for manpower are therefore urgent for the making of munitions and war supplies as well as for the Services—the Navy, the Army and the Air Force.

Financing Canada's War Effort.—Fortunately, so far as financial organization was concerned, the Canadian financial structure was already well developed before the War to a point where it had proved its adaptability and suitability to the country's needs. The strain of war and Canada's accomplishment in meeting such a high proportion of the direct cost of the War, while at the same time providing Britain and other Allied Nations with very extensive assistance in obtaining war supplies in Canada, has been further evidence of this. Financial developments during the war years up to 1943 are outlined in previous editions of this Handbook. They are brought up to date in the following paragraphs.

Financial Aspects of Canada's War Effort in 1944.—Canada's total expenditures, including those made to provide war supplies to others of the United Nations, totalled \$5,322,253,505 in the fiscal year ended Mar. 31, 1944. However, other outlays had also to be made, which were not "expenditure" in the technical sense since they resulted in an increase in the assets or a decrease in the liabilities of the Dominion—for example, outlays that are recoverable from various Allied Governments. The result is that the total cash requirements were some \$500,000,000 greater than the total of expenditures proper. Full information will not be available until the *Public Accounts* for 1943-44 are presented to Parliament, but an estimate of \$5,841,300,000 was made in Parliament on June 26, 1944, when the Budget for 1944-45 was brought down. This budget forecast total expenditures of \$5,152,000,000, including a further Mutual Aid Appropriation of \$800,000,000, but the Minister of Finance made it clear that he expected cash requirements would, in fact, exceed \$6,000,000,000; in a press release on Sept. 10, 1944, announcing the Seventh Victory Loan he repeated this figure and in support of it stated that it appeared that war expenditures would be approximately \$500,000,000 greater than previously estimated.

No important changes in taxation were made, except the removal of the compulsory savings portion of the personal income tax after June 30, 1944. Total revenues were \$2,765,017,713 in 1943-44 and were forecast in the Budget at \$2,617,000,000 for 1944-45.

During 1944 two more Victory Loans were issued, each breaking all previous records—the Sixth Victory Loan in which 3,077,123 subscriptions totalling \$1,405,013,350 were received in a campaign which took place between Apr. 24 and May 13, and the Seventh, in which 3,179,700 subscriptions amounting to \$1,500,079,600 were obtained between Oct. 23 and Nov. 11. The figures for the Seventh Loan are not final, and do not include 20,115 conversion subscriptions yielding \$144,719,700.

Some easing of the shortage in the U.S. dollar exchange position occurred during the year, in consequence of which the provision of the War Exchange Conservation Act prohibiting certain imports from the United States was lifted, and the restrictions on pleasure travel in that country were reduced also.

Department of Munitions and Supply.—The Department was organized in September, 1939, to fulfil two main functions—the making of all defence purchases, and the mobilization of industrial and other resources to meet war needs. When the Department was launched, its work comprised chiefly the purchasing for the Armed Forces. It was not until June, 1940, that it was called upon to initiate an over-all war-time program. Controllers were appointed to administer various industries and the supplies of various commodities. By the authority of the Munitions and Supply Act, Controllers can purchase, expropriate, manufacture and take virtually any steps required to further the war effort in the fields in which they operate. Each Controller on his appointment automatically becomes a member of the Wartime Industries Control Board, which was set up to integrate the efforts of the individual Controllers.

From a small organization with only a handful of staff, the Department has grown to a commercial and industrial giant employing 4,500 within itself and giving employment to 100,000 in Crown Companies under its control and indirectly to 900,000 others. It owns plants, or plant extensions, in every large Canadian city and in many small communities from the Atlantic to the Pacific. As the largest business organization in the history of this country, it had made commitments up to the end of 1944 amounting to more than \$10,255,000,000 on war production and construction or as much as the Dominion Government spent in all the years from Confederation up to and including 1932. At peak production, reached in the last quarter of 1943, it was making or buying \$65,000,000 worth of munitions per week. A year later this figure had dropped to \$55,000,000, but a large part of the drop in the dollar figures was accounted for by increased efficiencies in manufacturing methods with correspondingly lower costs.

The Department is unique. No similar body exists in any other country. Nowhere else is all the purchasing for the national and Allied Armed Forces carried

Ground Crew Carrying out a Routine Check.—Careful maintenance keeps the R.C.A.F. Nighthawk Squadron "Mosquitos" in peak flying condition.



R.C.A.F. Photo

out by one central organization. Nowhere else is there an absence of competition between the Army, Navy and Air Force for supplies, and nowhere else has the body which supplies the three Services the power to mobilize industry and resources to attain maximum production.

The Organization of the Industrial Effort through the Department of Munitions and Supply.—With the defeat of Germany, Canada must revamp much of her industry, grown to three times its pre-war size. The work of readjustment necessary to provide needed civilian articles and maintain employment will be an enormous task.

In this, the sixth year of war, Canada ranks fourth among the United Nations as a producer of munitions, third in Allied naval power, second in exports, and fourth in Allied air power. To make these achievements possible, the output of raw materials had to be increased greatly, and to-day Canada is the third largest Allied producer of timber, the fourth largest Allied producer of steel, and is at or near the top in the output of nickel, asbestos, platinum, radium, gold, aluminum, mercury, molybdenum, copper, zinc, lead, silver, arsenic and magnesium. To meet war needs great advances had to be planned in the production of finished products, many of which were of a type quite new to Canadian industry.

In the development of the wide range of new manufactures that the War has brought to Canada, the Department of Munitions and Supply has taken a prominent place. The first and most urgent need was for arming the fighting forces of Canada, of supplying them with the finest equipment that brains and skill could devise. Second, and no less urgent, was the need for helping Britain in the dark days of 1940, when that country stood as one of the last bulwarks of a free world. And third, there was the need for helping to arm the other United Nations.

The achievements have been great: 1940 was a year of plans and small beginnings, with the first trickle of war supplies from previously available and other hurriedly organized sources; 1941, one of construction, of conversion, of expansion, of greatly broadened plans, and of quickened output in response to the urgencies of the time; 1942, a year of rising production, of objectives reached and passed, and of restrictions on civilian industry; 1943 marked the attainment of peak production, of output so heavy that the national economy was subjected to serious stresses and strains; and 1944, which began with the tide still wavering between the ebb and flow and ended with the waters again on the rise, saw many shifts and changes in production, shifts from one device of war to another.

In volume the Canadian output has been overshadowed, naturally enough, by the United States, Russia, and the United Kingdom. But in timeliness and quality it has constituted a major factor in the Allied swing from desperate defence to victorious attack.

From Canadian shipyards have come more than 1,000 naval, cargo and specialized ships, plus many hundreds of smaller craft. Canadian aircraft plants have contributed nearly 15,000 'planes. Automotive and related plants have turned out more than 700,000 units of mechanical transport and more than 45,000 armoured fighting vehicles. From the small-arms factories have come about 1,425,000 machine guns and other small arms. From the gun shops, in a country that had never made a modern gun, have come more than 100,000 units, including Army and Navy guns, barrels, carriages, and mountings. From Canadian arsenals and shell-filling plants have come more than 110,000,000 rounds of heavy ammunition and bombs, and more than 4,200,000,000 rounds of small-arms ammunition. The chemicals and explosives industry



Exchanging the Power Plant on a Lockheed Bomber.—A "power egg" system has been developed which permits a complete change of power plant in 27½ minutes.

Courtesy, Monetary Times

has produced more than 2,000,000 tons. More than \$450,000,000 worth of equipment has been made by the signals, instruments and communications industries. In addition, many millions of dollars worth of stores and furnishings for military establishments and millions of dollars worth of personal equipment for the service men and women have been produced.

To achieve this great flow of war machines and supplies, the Department has made commitments amounting to about \$790,000,000 for new plants, extensions to plants, and certain other capital investment. New electric power installations brought the total up to an all-time peak of well over 10,000,000 h.p., an increase of about one-fifth of the installation in 1939. Steel production was expanded to 3,000,000 tons a year, which is almost double the 1939 output; aluminum production was expanded

nearly seven times; the aggregate production of refined copper, nickel, lead and zinc was increased by about one-fifth. The outputs of timber and coal were lifted to new peaks and in a new Government-owned plant 60,000,000 lb. of synthetic rubber were produced during the first year of operation, September, 1943, to September, 1944.

The departmental organization behind all this flow of power and raw materials has been brought to a focus in the Wartime Industries Control Board and its Controllers. Together they have formed a departmental team, and have taken all the necessary steps to increase the output of the materials needed and, by regulations and orders, diverted all scarce materials from non-essential uses.

Only 30 p.c. of the Canadian war production has been used by Canadian Forces at home and abroad. The remainder has gone to Britain, the United States, Russia, Australia, New Zealand, India, the Union of South Africa, China, France, and other United Nations. Much of it has been shipped under the Mutual Aid Act.

Department of National War Services.—The Department of National War Services was established by Act of Parliament in July, 1940, to assist in carrying out the provisions of the National Resources Mobilization Act, 1940, concerned with the mobilization of all the effective resources—both human and material—of the nation. The Department was also empowered to promote, organize and co-ordinate voluntary war services and material contributions made for the prosecution of the War. At present, it comprises the following Divisions:—

Canadian Government Travel Bureau.—Although all advertising and direct tourist promotional work has been discontinued because of the decrease in tourist traffic, the Bureau still receives and answers hundreds of inquiries relating to travel in Canada. Revision of maps and publications has been continued for use in the post-war period.

Directorate of Censorship.—The Directorate of Censorship is responsible for the censorship of publications of all kinds, including radio broadcasting and films, and also for the censorship of postal and telegraphic communications.

Committee on Co-operation in Canadian Citizenship.—The objective of the Committee is to promote mutual understanding between Canadian citizens of French and British extraction and those of other European origins and, through contact with the latter, to interpret their points of view to the Government and to the Canadian public.

Corps of (Civilian) Canadian Fire Fighters for Service in the United Kingdom.—At the request of the British Government, a Corps of (Civilian) Canadian Fire Fighters was recruited early in 1942 to assist the National Fire Service in the extinction of fires and protection of life and property in the United Kingdom.

Government Office Economies Control.—Created in 1942, this Division is charged with the duty of effecting, throughout all Government Departments, the greatest possible economy and saving in the use of printing, stationery, office appliance machines and furniture.

National Salvage Division.—The National Salvage Division co-operates with approximately 1,700 Voluntary Salvage Committees now in operation throughout Canada. The net proceeds from the sale of salvage material are contributed by Committees to recognized War Charity Funds for the benefit of Canada's Armed Forces.

Prisoners of War Next of Kin Division.—The Prisoners of War Next of Kin Division furnishes information concerning prisoners of war and is responsible for

the issue of labels every three months to the next of kin, without which personal parcels may not be despatched. This service is also extended to the prisoners of war of Allied Nations and civilian internees whose next of kin reside in Canada.

Voluntary and Auxiliary Services.—The Voluntary and Auxiliary Services Division exercises budgetary and financial supervision in respect to the six national organizations which receive funds from public treasury for war auxiliary services, viz: Canadian Legion; Knights of Columbus; Salvation Army; Y.M.C.A.; Y.W.C.A.; Navy League of Canada for Hostels and Merchant Seamen Clubs; and also supervision of appeals to the public of Canada for voluntary contributions for war services objectives. It is responsible for development of voluntary war services generally and of Citizens' Committees which act as co-ordinating agencies in approximately 70 urban centres, where off-duty and auxiliary services for Armed Forces personnel are necessary. This Division administers the War Charities Act, promulgated to ensure proper direction and control over war charity appeals to the public.

Women's Voluntary Services.—The Women's Voluntary Services Division, in an advisory capacity, seeks to prevent overlapping and duplication and promotes voluntary civilian war- and peace-time services on a community basis. Voluntary Service Centres are organized with the primary purpose of acting as a central registry or a manning pool to recruit volunteers for war- and peace-time services community work.

Voluntary War Relief Division.—The Voluntary War Relief Division is concerned with committees dealing with the relief of distressed civilian peoples in Allied countries and is the channel for purchase permits from Government Controllers. The Director co-operates with other Government Departments interested, the United Nations Relief and Rehabilitation Association and the Mutual Aid Board, with respect to relief activities in order to avoid duplication of effort in the purchase of bulk relief supplies.

Wartime Information Board.—The Wartime Information Board was established on Sept. 9, 1942, by Order in Council P.C. 8099, for the purpose of ensuring "an informed and intelligent understanding of the purposes and progress of the Canadian war effort and its relation to the common effort of the United Nations". It is essentially a co-ordinating organization and does not attempt to centralize the information activities of the Federal Government within Canada. War Departments such as Army, Navy, Air Force and Munitions and Supply issue their own information directly to Canadian distributing agencies, though WIB has a responsibility for distributing war-time information outside Canada. The Board consists of a Chairman and Vice-Chairman representing the public, and eight senior representatives of those Departments of Government chiefly concerned with war activities.

The Board's domestic information services are carried out in both the English and French languages and are of two principal types. The first consists of collecting, correlating and distributing interdepartmental information relating to the War and of interest to the general public; the second of collecting, correlating and distributing information on specific war-time subjects of interest to particular sections of the public. Distribution in both cases is directed towards persons and bodies in a position to pass on information to others and is built up on a request basis. Publications primarily designed for domestic distribution include: Religious Information ("Canadian Churches and the War"; "Nouvelles Catholiques"); Industrial Information

("Labour Facts"; "Wallnews"; "Wartime Clips"; "Graphic Sheets"); Consumer Information ("Consumer Facts"; "Features for Dailies"; "Home Front Bulletins"; "News Features"); General Information ("Post-war Planning"; "Radio Service").

The Board's external operations channel out from Ottawa through offices in New York, Washington, London, Canberra and Paris, and through Canadian Official representatives in Latin America, the British Commonwealth, the U.S.S.R., etc. This work is done in co-operation, on matters of policy, with the Department of External Affairs. It combines an attempt to inform the peoples of the countries with whom Canada maintains diplomatic relations of the elementary facts about Canada and her war effort, and an attempt to see that news about Canada is considered, before release, in the light of its probable impact on the peoples of other countries. Contact is maintained with the Wartime Information Board's U.S. offices by teletype; with other offices and legations by airmail and cable services.

The Reports Branch maintains a pool of basic information for use of the external and domestic branches, for press officers and for other Government Departments, and it prepares and issues certain regular information material including: "Canada at War" (distributed widely, particularly to schools and libraries in Canada and the United States), "Reference Papers" and "Facts and Figures Weekly" (with a more specialized distribution, particularly to home establishments of the Armed Services for educational purposes).

As part of the educational program of the Armed Services, a fortnightly study pamphlet entitled "Canadian Affairs" is issued, and in addition a series of photographic displays is circulated throughout Canada. A monthly periodical, "Canada Digest", composed of a selection of articles that have appeared in Canadian periodicals in the preceding month, is also published and distributed among the Armed Services abroad. This work is carried out under an editorial advisory committee composed of the Senior Educational Officers of the three Armed Services and the Wartime Information Board.

National Film Board.—Established by Act of Parliament, 1939, the National Film Board is composed of two cabinet ministers, three civil servants and three representative citizens. Its functions are directed by the Government Film Commissioner who is responsible for co-ordinating and advising upon all film activities of the Canadian Government.

The Board releases two monthly series to the theatres: "Canada Carries On", which runs in Canada, and "World in Action" which plays in Canada, the United States and Britain. It also produces many 16 mm. non-theatrical films for distribution to the Armed Services, rural circuits and industrial circuits in Canada, and through Trade Commissioners, Embassies and Legations throughout the world. To serve Canada a network of film distribution has been built up through the co-operation of volunteer projection services.

Since 1940, the National Film Board has produced almost 300 documentary films, scores of newsclips and trailers and a large number of newsreel stories. With headquarters at Ottawa, the Board maintains offices at Toronto, Montreal, Winnipeg, Vancouver, and abroad at London, Washington, New York, Chicago and Los Angeles.

Through its Graphics Division, it supplies regular photo service and mats to newspapers, magazines, rotogravures, house organs, etc.; plans, posters, booklets, cartoons, decorative illustrations for Government Departments; and maintains an active information section.



Experts from the Dominion Experimental Farm and the Royal Canadian Army Medical Corps Examining Vegetables Grown in "Hydroponic" Beds at Goose Bay, Labrador.—The soilless growth of plants has recently proved to be thoroughly practical. The production of fresh fruits and vegetables by soilless culture has been undertaken for the purpose of maintaining the health of troops in isolated northern areas.

R.C.A.F. Photo

Wartime Prices and Trade Board.—The Wartime Prices and Trade Board was established at the beginning of the War "to provide safeguards under war conditions against any undue enhancement in the price of foods, fuel and other necessities of life, and to ensure an adequate supply and equitable distribution of such commodities". During the first two years of the War, the Board was mainly concerned with organizing supply and preventing the occurrence of avoidable shortages. Direct price fixing was very rarely necessary.

As the war program expanded, persistent shortages began to develop and, starting in April, 1941, the cost-of-living index rose sharply, largely as a result of increasing food prices. Against this background the Government decided upon a policy of overall price and wage ceilings, which came into effect on Dec. 1, 1941.

In general, the Board has jurisdiction over the supply of those goods required chiefly for civilian use, while the Department of Munitions and Supply has control over the materials and supplies that are of major importance to the war program. The Board works in close collaboration with other Government Departments, and the membership of the Board itself is comprised of senior officials of other Government Departments and agencies.

Problems arising in the administration of price control are outlined on pp. 188-191, while some of the Board's activities in the sphere of civilian supply are briefly discussed in this section. The Wartime Prices and Trade Board is charged with the duty of taking appropriate action to assure that the essential needs of the civilian population are met. Apart from its pricing actions, which are, of course, related to supply problems, the Board has found it necessary to take a variety of direct steps to protect essential civilian supplies.

It has been necessary, for example, for the Board to negotiate for supplies required from outside of Canada. Canada's requirements for a variety of commodities have had to be presented to the Combined Boards, which allocate United Nations supplies, and to Government agencies in the United States and the United Kingdom. and in many cases, such as textiles and hides, the Board has acted as the Canadian claimant agency. Some imports have had to be bulk purchased. In addition, many Canadian supplies, whether imported or domestically produced, have had to be allocated as between war and civilian requirements. For this purpose, a number of interdepartmental committees, on which the Board is represented, have been set up, such as the Food Requirements Committee, and close co-operation is maintained with the Departments of Munitions and Supply, Agriculture, and with National Selective Service through the Department of Labour. Finally, the most effective use of short supplies available for civilian purposes has frequently involved allocating materials among various users, issuing production directives where necessary, and controlling the distribution of more essential finished goods in short supply.

Simplification programs and informal measures of allocation were introduced on a considerable scale in 1942, while in the following two years allocation systems were further developed and the specific direction of production was introduced when needed. For example, since the latter half of 1943 shortages of various essential articles of clothing, resulting from the scarcity of labour and the restriction of supplies available from abroad, have been controlled by the Board. This has usually taken the form of "directives", setting a specific quota for each firm with regard to the garment concerned, though in some cases allocations of material have been sufficient. The directives have frequently been accompanied by assistance in obtaining materials and labour. Programs of this type were introduced for the production of winter under-wear, work clothing, children's wear, worsted suitings, women's hosiery and other items.

Supplies of various metal household appliances, production of which had practically ceased, fell to an extremely low level toward the end of 1943. Production of a few articles—e.g., washing machines, irons, electric stoves—has been resumed on a very limited scale, production schedules being drawn up in collaboration with the Wartime Industries Control Board.

With the development of such direct methods, as well as the allocation of basic materials by the Wartime Industries Control Board and direction of labour by National Selective Service, the Board's orders restricting and prohibiting the manufacture of civilian end-products became less important. This fact, combined with some easing in the supply of a number of materials, made it possible during 1944 to remove or relax a substantial number of the orders simplifying, restricting or prohibiting the manufacture of civilian products, and thus to clear the way for the resumption of civilian production without prejudice to the war effort or the supply of essential civilian goods. While most of the relaxations were concerned with metal products, a number of restrictions were also removed in the apparel and paper products fields.

The Board's activities in the sphere of distribution control have been particularly important in the case of foods. Shortages developed, owing to decreased imports in some cases, and increased domestic and export demand in others, and in the course of 1942 and 1943 rationing was introduced for sugar, tea and coffee, butter, meat, preserves and honey. During 1944, food supplies improved in some fields, but shortages continued in others. Meat rationing was suspended on Mar. 1, 1944, and



Long-backed Hogs from Alberta.—These hogs are on their way to eastern slaughter houses to become pork, ham, bacon, leather, etc., each of which is playing a vital part in Canada's war effort.

Courtesy, National Film Board

improved shipping conditions led to the lifting of the tea and coffee ration on Sept. 19, 1944. On the other hand, the butter ration was slightly reduced during the year, owing to increasing requirements of fluid milk for domestic consumption and cheese for export to the United Kingdom. The shortage of dairy products also involved the introduction of a system of priority sales of evaporated milk, and restrictions on the sale of cream.

Department of Labour.—The development of war-time labour policy up to the latter part of 1943 is outlined in *Canada 1942*, pp. xxiii-xxiv, in *Canada 1943*, p. 25, and in *Canada 1944*, pp. 26-7. A general outline of present policy is given in the Labour Chapter at pp. 148-154 which brings the subject up to date.

Agricultural Food Board.—The duties of the Board are: in co-operation with the Agricultural Supplies Board, to develop and direct the policies of the Department of Agriculture for the war-time production of food; to co-ordinate the activities of all commodity boards established under the Department of Agriculture; to direct the diversion of food products produced in Canada; to fill export contracts; to meet the requirements of the Armed Forces in Canada, and to supply deficiency areas in Canada; and to provide a medium for co-operation between the Department of Agriculture and the Wartime Prices and Trade Board in all matters pertaining to agricultural production, price adjustments and subsidies.

Agricultural Supplies Board.—The Agricultural Supplies Board is a war-time control body operating under the Department of Agriculture. It is the responsibility of the Board, in consultation with the Provincial Departments of Agriculture, to ensure that Canadian agriculture is carried on during war-time in a manner best suited to meet, so far as possible, the needs of Canada and the United Kingdom for food and fibres. The organization of the Board includes four Administrators who, under the direction of the Board, are responsible for ensuring supplies of live-stock feeds, fertilizers and pesticides, seeds and flax fibre.

Commodity Boards.—Working in close collaboration with the Agricultural Supplies Board and the Agricultural Food Board are three commodity boards, which procure and forward Canadian farm products contracted for under agreements with other Governments. The Meat Board (previously the Bacon Board) acts as the agency which implements the agreements with the British Ministry of Food for bacon and other meat products. The Dairy Products Board acts in a similar capacity with respect to Canadian cheddar cheese needed by the United Kingdom and takes such measures as will ensure needed supplies of other dairy products for Britain or for Canadian markets. The Special Products Board is responsible for supplying certain Canadian farm products such as eggs, fruit and vegetable products and flax fibre.

Dominion Bureau of Statistics.—The great and many-sided expansion of Canadian statistics in numerous fields during the past twenty years, and the work that the Dominion Bureau of Statistics has done to provide a statistical background for economic study, have greatly facilitated the conversion from a peace economy to a war economy. Far more is known about production, internal trade, prices, the balance of international payments, etc., than during 1914-18, and this knowledge has been extensively used by the Government.

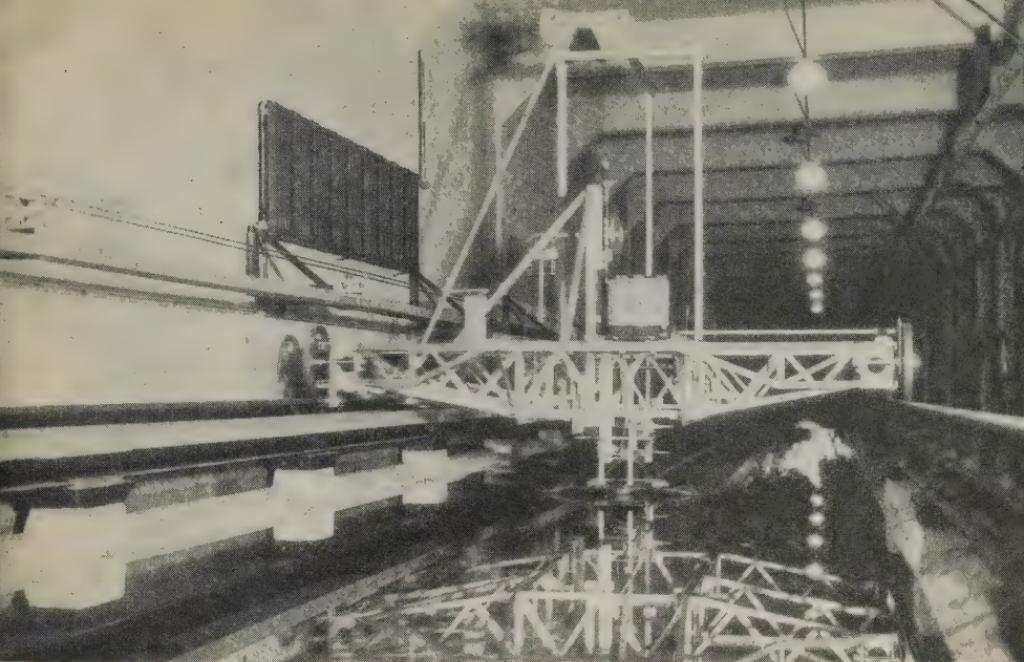
Co-operation with the Wartime Prices and Trade Board.—After the creation of the Wartime Prices and Trade Board, close liaison was established between the Board and the Bureau, the statistical staff being supplied by the Board but organized by the Bureau. Statistics on coal were collected and compiled for the Coal Administrator and later for the Coal Controller of the Department of Munitions and Supply. At the request of the Hides and Leather Administrator, a monthly series of statistics on stocks of hides, skins and leather was instituted. Later on, another monthly series of reports on retailers' inventories was introduced. The work on prices has been expanded considerably, particularly as regards cost-of-living statistics, and extensive price records are furnished regularly to the Board at frequent intervals.

Under the Wartime Prices and Trade Board's order to license persons and firms selling or buying for resale, commodities and specified services, the Merchandising and Services Branch of the Bureau became the Records Division for this work. Over 330,000 businesses were licensed and have been coded. Results from this work have provided record lists of firms for use in the various administrations.

Co-operation with the Foreign Exchange Control Board and Other Departments.—The work of the International Payments Branch has been closely co-ordinated with other Government Departments to meet the increased official demands for balance of payments information with respect to both past record and future outlook. The complexity of the economic and financial organization of the Dominion during the War has created new requirements for statistical information with the necessity of frequent reviews of the balance of payments situation.

To make effective use of information produced by administrative controls, four officers of the staff of the International Payments Branch are working on the premises of the Foreign Exchange Control Board. Information produced from this and other official sources is co-ordinated for balance of payments purposes with statistics collected directly by the Dominion Bureau of Statistics.

National Research Council.—During the war years Canada has spent five times as much on research as in pre-war years or, roughly, \$10,000,000 per annum. The President of the National Research Council has recommended that the war-time rate of expenditure should be used as a starting figure in the post-war period and that



Research in Mechanics and Engineering.—Testing aircraft floats in the testing basin of the National Research Council Laboratories. Models of high-speed boats, vessels and barges are also tested here.

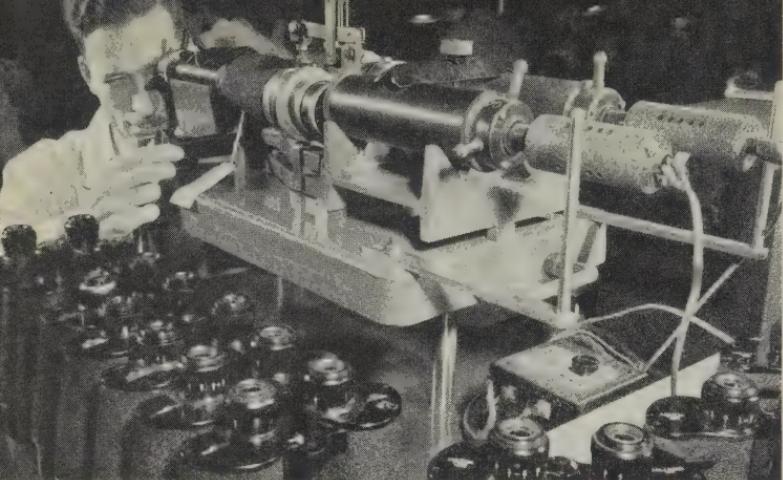
Courtesy, National Research Council

Canada should look forward to doubling that figure in five or ten years. This post-war program of expansion in research will include many new fields of investigation designed to develop the natural resources of the Dominion or to improve living conditions of the people, such as road research, housing and building research, transportation (air, rail, road and water), cold-weather and northern latitude problems, and the utilization of agricultural crops and the products of the forest. Research is recommended on the construction, heating and lighting, etc., of small homes, the development of cheap refrigeration units for farm homes, cold-storage locker systems for farms, and farm equipment including plumbing and farm power units.

It is recognized that the universities must remain the chief centres for the training of scientific personnel in special fields and should remain the chief centres for pure research. The chief concern of the Council's own laboratories is to carry on research on problems which may be expected to yield results of immediate practical application.

Plans are being made for the continued interchange of research workers between the National Research Council, universities, Government Departments and other research organizations in Canada. It is hoped also to expand the system of international liaison which has been developed to such a high extent during the War and which has enabled the scientists of Canada to take advantage of progress made in Great Britain, the United States and other countries, and in turn to make available to research workers in these countries the results of Canadian investigations.

The contribution of Canadian scientists in the development of new devices, methods and products has been widely recognized in such fields as: radio-location, aids to the Navy in mine and submarine detection, control of gunfire and other ballistic problems, new and more powerful explosives, emergency methods of food storage and transport under war conditions, development of special types of clothing,



Checking Binoculars for the Armed Forces on a "Collimator". — Exceptional care is taken to ensure perfection of these binoculars, upon which may depend the safety of a convoy or the success of an engagement.

Courtesy, National Film Board

and other equipment for Air Force, Army and Navy requirements. Problems relating to the physical well-being of the troops, have involved studies in nutrition, housing, sanitation, medical examination of recruits and treatment of the injured and sick.

Cold-weather problems have been given special attention to meet the requirements of the Armed Forces working in northern latitudes. Special subjects such as burns and the treatment of shock have been studied. Blood banks have necessitated research on methods of storage and preservation. Conferences on amputations have been held to bring work in this field into focus. Special medical committees have been created to deal with specific subjects.

On the civilian side, the National Research Council has been able to offer constructive aid in many directions. Glass-production methods have been evolved for the manufacture of needed telescope and other instrument lenses. Radiology has been applied to the inspection of castings, and teams of individual workers from industrial plants have been trained in its use. Paints, rubbers, textiles, and the processing of metals, including magnesium, for special purposes, have been investigated. Synthetic rubber research has been linked with similar work elsewhere and applied to industrial operations.

Other Agencies and Activities.—There are various other special agencies that are performing important economic functions, either of control or investigation. The problems of co-ordination, both internal and international, in the field of export policy have become more important because of the growing scarcity of essential materials. A Food Requirements Committee was established in October, 1942, for the purpose of studying both domestic and external demands on Canada's food production and recommending appropriate policies of supplying Canada's foodstuffs to other nations.

In order to have an agency for prompt consultation among the various Departments and other agencies of Government on the matter of export and import trade policy, establishment of an External Trade Advisory Committee was announced on May 4, 1944. This Committee investigates and makes recommendations on matters relating to war-time export and import trade or trade in a transition period and concerning Canada's supplying of goods and services for relief and rehabilitation. In January, 1944, the Canadian Export Board was established to act as a Canadian Government export and procurement agent for civilian goods for certain countries, especially some of the British colonies, where emergency war-time trade control measures have prevented normal trade practice from being followed.

Description of
Penicillin



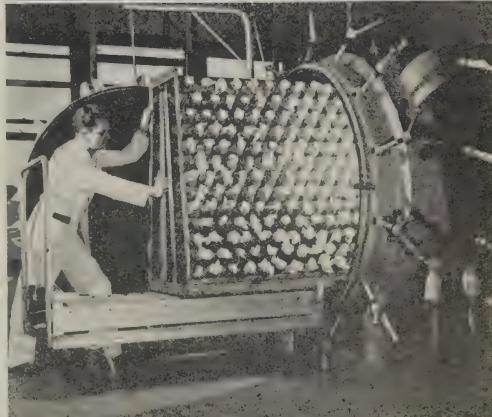
PENICILLIN

A British discovery—one of the greatest landmarks in the history of medicine.

Left Top: This material is actually a waste product from the corn industry which is mixed with milk sugar and later pumped into bottles. It is in this "medium" that the *Penicillium notatum* spores grow speedily into a mould.



Centre: Bottles containing the medium are submitted to a high temperature for half an hour for sterilization.



Bottom: Culture room where penicillium broths form in a ten-day growing process.



Right Top: A bottle of culture and the penicillin extract.



Centre: Finishing and standardizing the extract; the last chemical process before the penicillin is filtered for bottling.



Bottom: Vials of penicillin ready for use.



Penicillin

RESEARCH began in 1929 when Prof. Alexander Fleming of St. Mary's Hospital in London, an outstanding worker in research on antiseptics, was investigating the growth of *staphylococci*—the cause of most pus-forming infections. A mould accidentally appeared on one of the cultures. A less skilled worker would have discarded it, but Fleming's acute observation saw that, in the neighbourhood of the mould, the *staphylococci* were disappearing. In other words the mould had the power to kill the bacteria of pus-forming infections. Further developments in the isolation of the active principal (penicillin) produced by the mould were carried out by other British scientists and eventually, by the efforts of Prof. Florey and Dr. Chain, attached to the Oxford School of Pathology, a penicillin salt was extracted which, in dilution of 1 to 500,000 showed anti-bacterial power. The immense strength of pure penicillin may be gauged by the fact that this salt contained only one percent pure penicillin. Clinical studies had startlingly successful results and penicillin became world-famous. In 1942, Prof. Florey placed at the disposal of American countries all the theoretical and practical knowledge he and his co-workers had accumulated; in 1943 he investigated in North Africa the use of penicillin in the treatment of war wounds; and in 1944 placed at the disposal of the Soviet the results of all his researches. Of itself, the British discovery of penicillin has contributed substantially to the Allied cause.

The drug is found to be particularly effective in the treatment of such diseases as acute osteomyelitis, meningitis, pneumonia, wound infection, gas gangrene, peritonitis, septicæmia, puerperal sepsis, and gonorrhœal infections including those cases which are resistant to the sulpha drug treatment. Included in the list are conditions to which the Armed Forces overseas are particularly subjected through wound infections of one kind or another, and which in former wars accounted for a high percentage of fatalities.

Canadian production is being developed for the Armed Forces at laboratories in Toronto and by two well-known pharmaceutical firms in Montreal. Limited but increasing quantities are now being released through the Office of the Controller of Chemicals for civilian use.

Since the Hyde Park Declaration of April, 1941, several joint committees have been set up to co-ordinate the war programs of the United States and Canada on the economic side. Their functions are connected with the acquisition and use of scarce basic materials, production of war supplies and equipment as well as war-time agricultural problems of both countries. To act as liaison between the various agencies, the Joint Economic Committees were set up in 1941 with an over-riding responsibility to investigate and report on joint war-time economic problems not being currently studied by other agencies, as well as on problems of post-war adjustment. The development of other agencies of co-ordination made the continued operation of these committees unnecessary, and they were dissolved in March, 1944.

Shipping policy is also under close review by the Government. The Canadian Shipping Board controls the use of both lake and ocean ships of Canadian registry. In allocating ships to particular routes and in seeing that essential cargoes are carried, it co-operates with the United Kingdom Ministry of War Transport and the United States Maritime Commission. The Shipping Priorities Committee determines the degree of urgency or priority of the various shipping requirements, gives direction to the Shipping Board and forwards necessary requests for the use of United Kingdom and United States ships.

An Advisory Committee on Merchant Shipping Policy was established late in 1943 to report on the merchant shipping policy and, in particular, the present manning of merchant ships, disposition of ships after the War, post-war size and composition of the Canadian merchant marine, and the type of permanent machinery required to implement the post-war shipping policy.

It is significant that many of the agencies now functioning have been established not only to deal with the war-time situation, but also to establish some machinery to deal with the problems that will arise after the War, especially in connection with the transition period between war and peace.

Questions of post-war traffic have come to the fore during the past year. The Interdepartmental Committee on Air Transport Policy worked on recommendations leading to a draft international air transport convention which was presented by Canada as a basis for bilateral air talks between the United Kingdom and the United States; also to the establishment of an Air Transport Board which was passed by Parliament during the 1944 session. This Board will function as a regulatory and advisory body, to regulate civil aviation and advise the Government in laying out Canadian-operated routes within Canada and overseas.

Government Action Directed Towards Post-War Reconstruction Exploratory Work in Reconstruction and Social Welfare

As early as December, 1939, the Government set up a special Cabinet Committee on Demobilization and Re-establishment "to procure information respecting, and give full consideration to and report regarding, the problems which will arise from the demobilization and discharge from time to time of members of the Forces . . . and rehabilitation of such members into civil life". Thus, before the War was many months old, the economic problems associated with the waging of all-out warfare and the subsequent peace were anticipated so far as it was possible to foresee them. In February, 1941, the terms of reference of this Cabinet Committee were broadened to include all phases of reconstruction as they had been shown to be necessary with the development of the War. At still later dates the direction of all reconstruction studies was placed under the Prime Minister as President of the Privy Council.

Parliamentary and other committees set up to explore and advise the Government on matters of reconstruction and re-establishment are:—

- (1) The Senate Committee of which the Chairman is Senator Norman P. Lambert.
- (2) The House of Commons Committee, which has popularly come to be known as the 'Turgeon Committee' after its Chairman, J. G. Turgeon, Member for Cariboo, B.C.
- (3) The following advisory committees reporting to the special Cabinet Committee or otherwise: (a) the Advisory Committee on Demobilization and Re-establishment; (b) the Advisory Committee on Economic Policy; and (c) the Advisory Committee on Reconstruction.

The Senate Committee.—The Senate Committee on Economic Re-establishment and Social Security was established on Mar. 5, 1943, and has held meetings from time to time since that date. The Order of Appointments defines its functions as: to consider and report upon matters arising from post-war conditions, particularly those relating to problems of reconstruction and re-establishment and a national scheme of social and health insurance. The method of procedure is to hear and discuss reports from leading manufacturers, research workers, the chairmen of the various advisory committees established to study specific phases of reconstruction and other bodies.

The Senate Committee has worked closely with the House of Commons Committee and the work of both has served to focus public opinion upon the whole problem of post-war reconstruction.

Certain recommendations of the House of Commons Committee given below have resulted from joint sessions of both Committees.

The House of Commons Committee on Reconstruction and Re-establishment.—This Committee was originally established by a Resolution passed in the House of Commons on Mar. 24, 1942, "that a select committee of the House be appointed to study and report upon the general problems of reconstruction and re-establishment which may arise at the termination of the present war, and all questions pertaining thereto . . .". The House of Commons Committee has held meetings continuously from Mar. 24, 1942, to date and has presented reports each year to the House. Minutes of Proceedings and Evidence are published as House of Commons Sessional Papers and are available through the King's Printer. The procedure takes the form of statements before the Committee by leaders in industry and other witnesses called to report in their respective fields and to answer questions put by the Committee members regarding the subject matter of such statements. Most of the Provincial Governments have presented briefs to the Committee.

Recommendations.—The most important of the recommendations made at various times to the House are summarized as follows:—

- (1) That creation of employment is the most immediate reconstruction problem of post-war Canada.
- (2) That a Department under ministerial responsibility should be established to carry out the various tasks of reconstruction.
- (3) That re-housing is an absolute post-war necessity. Authority should be taken by the Government to finance better homes for the people living under unhealthy slum conditions.
- (4) That the Prairie Farm Rehabilitation Act, if applied to the whole of Canada, would greatly improve Canada's agricultural life and that the Act be amended accordingly.

Convalescent soldiers learning useful occupations while helping themselves along the road to health at the Rideau Health and Occupational Centre, near Ottawa.



*Courtesy, Department of
Veterans Affairs*

- (5) That every member of the Armed Forces and the Merchant Navy is entitled to assurance that Parliament and the Government will be prepared to do everything within their power to prevent any recurrence of mass unemployment.
- (6) That preferences in Federal Government works projects and industries furnishing supplies be given to members of the Armed Forces and Merchant Navy and, wherever possible, be granted by the Employment Service.
- (7) That specifically detailed improvements in transportation and communications should be carried out designed to build up the economic life of the Maritime Provinces.
- (8) That Dominion-wide programs of road construction should be undertaken after the War to:—
 - (a) connect the highway systems of Canada with those of the United States.
 - (b) link up highways within Canada with a systematic design to encourage the proper utilization of the country's natural resources.
 - (c) promote the construction of a permanent all-season trans-Canada highway.
- (9) That the question of markets, domestic and international, should receive immediate and constant study. Increased production through chemical research should be followed up. The relationship of agriculture to secondary industry must be changed and improved.

- (10) That rural electrification as a means of improving the social and economic life of the farming population should be encouraged.
- (11) That serious thought be given to the preservation of forests on the eastern slope of the Rocky Mountains in order to conserve the water resources of the Prairie Provinces, and that reforestation and afforestation be given serious study in co-operation with the Provincial Governments.

Special Advisory Committees.—*The Advisory Committee on Demobilization and Re-establishment.*—Under the Cabinet Committee on Demobilization and Re-establishment established in December, 1939, a General Advisory Committee on Demobilization and Re-establishment was set up under Order in Council P.C. 5421 of Aug. 10, 1940, composed of ranking civil servants who represented the Departments of Government directly or indirectly concerned. This Committee was among the earliest to be set up to investigate and study under the reconstruction machinery of the Cabinet Committee. The Chairman of the Canadian Pension Commission was appointed Chairman of this Committee and the Associate Deputy Minister of Pensions, Vice-Chairman. It was out of this Committee, as its field of effort developed, that the Advisory Committee on Reconstruction grew.

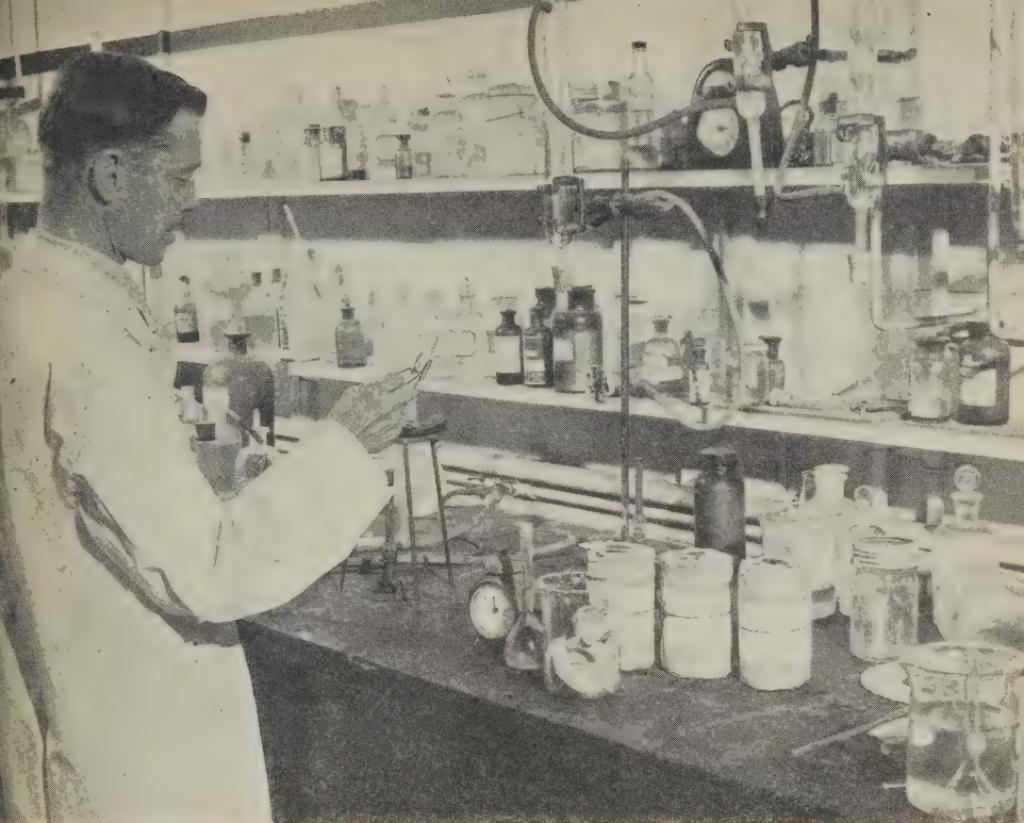
The terms of reference of this Committee were: to act as the agency among various Government Departments in matters of demobilization and rehabilitation and to bring before the Cabinet Committee recommendations for legislation in respect of these matters.

On Sept. 25, 1943, the Committee presented a report outlining its organization and the action taken by the Government as a result of its several recommendations. This report has not been printed but it was submitted in mimeograph form to the Minister of Pensions and National Health in his capacity as Convener of the Cabinet Committee.

The Advisory Committee on Economic Policy.—Functioning under the chairmanship of the Deputy Minister of Finance, this is essentially a committee of co-ordination. Its membership is composed of Deputy Ministers and its establishment and operation is in itself recognition of the principle that the development of post-war reconstruction policies and measures must be carried on in many different Departments and through many agencies of government with due provision for effective co-ordination. The Advisory Committee on Economic Policy is responsible directly to the Prime Minister and the relationship between this Committee and the Cabinet is, in fact, the *confidential* relationship existing between the Ministers of the Crown and expert administrative heads of the Permanent Civil Service. Because of this confidential nature of its duties, no printed reports are submitted.

The Committee was originally established on Sept. 14, 1939, a few days after the outbreak of the War, to investigate, report and advise on questions of economic and financial policy, and on problems arising out of Canadian participation in the War. As reconstruction problems became more pressing, the particular talent and experience of this Committee was directed to post-war reconstruction matters and its scope was widened to cover this work under P.C. 608 of Jan. 23, 1943.

The Advisory Committee on Reconstruction.—This Committee was created on the recommendation of the Cabinet Committee on Demobilization and Re-establishment following the enlargement of the latter's functions to include the general subject of post-war reconstruction. Its functions were to examine and discuss the general post-war problems and to make recommendations as to what Government facilities should be established to deal with these questions. It was first established under P.C. 6874 of Sept. 2, 1941.



Food Research being Carried on in One of the Laboratories of the Department of National Health and Welfare.

Courtesy, National Film Board

The Advisory Committee on Reconstruction wound up its work and made its report to the Prime Minister on Sept. 24, 1943. The functions of this Committee were transferred to the Advisory Committee on Economic Policy on Jan. 1, 1944, by P.C. 9946, Dec. 31, 1943.

Advisory Committee on Health.—In February, 1942, the Government set up the Advisory Committee on Health Insurance with instructions to formulate a Health Insurance Plan. The Committee reported in March, 1943, and accompanied the report with prepared drafts of suggested Dominion and provincial legislation.

The Department of National Health and Welfare

The establishment of the Department of National Health and Welfare was provided for under c. 22 of the Statutes of 1944, and the official announcement of the organization of the Department was made on Oct. 13, 1944. This Department will administer, on the health side, the functions of the Health Branch of the former Department of Pensions and National Health. It will organize the machinery for the administration of the Family Allowances Act and will continue the preparatory work directed to a nation-wide system of health insurance and a national scheme of contributory old age pensions. It will also, in time, assume certain other social welfare responsibilities which have hitherto been carried as the administrative function of other departments of the Federal Government.

Legislation in Regard to Social Welfare.—During the 1944 session of Parliament, the Family Allowances Act was passed and is to become effective July 1, 1945. This legislation is designed to equalize, in some measure, the social position of persons with families, compared with others without similar obligations.

On July 31, 1943, the National Fitness Act was passed, under which grants to provinces are approved for the improvement of the physical standards of Canadian youth through sports, athletics and other pursuits.

The Department of Reconstruction

The organization of the Department of Reconstruction (established under c. 18 of the Statutes of 1944) was also announced on Oct. 13, 1944. This is a temporary Department of Government and, according to the provisions of the Act, the duties of the Minister are "to prepare, formulate and co-ordinate plans and projects for reconstruction, and, with the authorization of the Governor in Council, provide for the carrying out thereof". It shall also be the duty of the Minister :—

- "(a) to inform himself fully of the needs for new employment of the men and women in the armed forces and in industry and the opportunities that will be available to meet those needs as men and women are demobilized from the armed forces and as war production declines;
- "(b) to co-ordinate the actions of other departments and agencies of the Government of Canada for the purpose of ensuring that the transition from a war-time to a peace-time economy shall be effected as quickly and as smoothly as possible;
- "(c) to formulate plans for industrial development and conversion, public works and improvements, housing and community planning, research and the conservation and development of natural resources, and with the authorization of the Governor in Council, to provide for carrying out such plans;
- "(d) to correlate information relating to plans for reconstruction."

In short, this Department will be a co-ordinating agency responsible for dealing with the internal economic problems involved in the re-employment of ex-service personnel and war workers, and the reconversion of industry.

The closest co-ordination between the war-time Department of Munitions and Supply and the new Department of Reconstruction is reflected in the appointment of the Minister of the former to the new portfolio.

The Department of Veterans Affairs.—The organization of the new Department of Veterans Affairs (established under c. 19 of the Statutes of 1944) was announced on Oct. 13, 1944, with the Hon. Ian Mackenzie, former Minister of Pensions and National Health, as the Minister.

This Department embodies all major activities of the Government which are of exclusive interest and benefit to veterans, and attached to it is the Canadian Pension Commission and the War Veterans' Allowance Board. It now includes the administration of the Veterans Land Act and the Veterans Insurance Act, formerly the responsibility of other departments, as well as the Post-Discharge Re-establishment Order and the Treatment and other regulations, formerly administered by the Department of Pensions and National Health, for the benefit of veterans of both the present war and the First World War.

The administration of that section of the War Service Grants Act called the Re-establishment Credit is handled by the new Department, which will authorize also all vocational training and higher education for discharged personnel, including tuition fees and maintenance grants.

The Development of the Canadian Economy in 1944



**Hon. James A. MacKinnon, M.P.,
Minister of Trade and Commerce.**

and services, rose to a new high figure in 1944, though the percentage increase over 1943 was of only moderate proportions. The gain in farm production contributed heavily toward the record income of the year.

The 700,000 farmers of Canada, assisted by generally favourable weather during the growing season, achieved a high level of production in 1944, despite the depletion of the labour force by enlistments and by migration to the cities. Field crops were generally much in excess of those of the preceding year, the wheat harvest having been about 450,000,000 bu. compared with 290,000,000 bu.

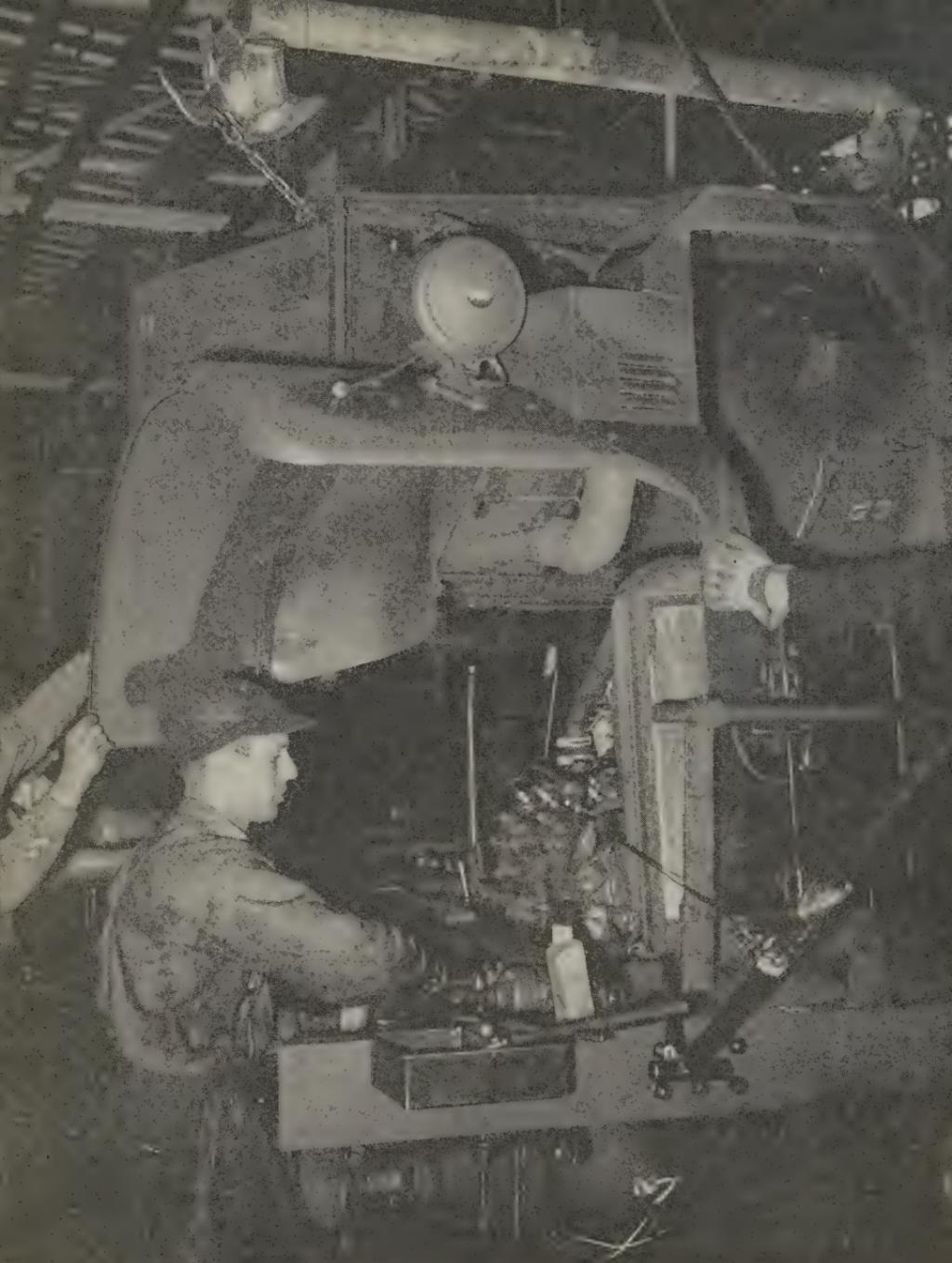
Marketings of live stock were also at high levels throughout the year, while the production of poultry and eggs attained record levels. As a result there was in 1944 an enormous export of food, while Canadians at home were among the best-fed populations of the world. Financially, the farmers of Canada obtained higher cash incomes than in any other period, enabling them to liquidate in large measure the mortgage indebtedness and other obligations contracted during the long depression. The world-wide demand for food in the coming year bids fair to absorb, at good prices, all the products which the farmers may be able to make available for the feeding of the Allied Nations.

The fisheries are also performing an important function by adding to the war-time food supply. During the pre-war period, Canada's domestic consumption of fish was small in relation to output. Between 60 p.c. and 70 p.c. of the annual catch was normally exported, of which the United States took about one-half and Britain one-quarter. The industry, therefore, must contend with the fact that after the War the

Production for war purposes reached a maximum in the year recently terminated. The Dominion in the previous five years had been working up to a record level of industrial production and further advance was made during the year, particularly in the production and export of food. The rate of expansion, however, was not so marked as in other years since the outbreak of hostilities, owing chiefly to scarcity of labour.

The most arresting fact regarding the current situation of the Canadian economy is the extent of war production: Canada's industry has played a very vital role in the war effort of the United Nations. The value of completed contracts, exclusive of food supplies and metals, placed through the Department of Munitions and Supply has exceeded \$8,000,000,000, the value of manufactured products alone being more than \$6,000,000,000.

The national income, the most comprehensive measure of the production of goods



An Army Vehicle Receives Part of its Sturdy Body as it Moves Along
the Assembly Line

Courtesy, National Film Board

greater part of its output will probably have to find markets in other countries. The record in augmenting the British food supply during the past five years, despite the inherent difficulties of operations, constitutes a brilliant chapter in the story of Canada's war effort. The output of canned salmon has averaged more than 1,375,000 cases in the past three years, going mostly to meet the needs of the United Nations. Shipment of canned salmon to Britain was several years ago as great as 80,000,000 lb. and latterly only a comparatively small part of the output has been retained for Canadian consumers.

Canada's role as the leading exporter of base metals has given the mining industry its opportunity of making a well-nigh indispensable contribution to the war effort. The value of exports of non-ferrous metals, minerals and derivatives, has risen 85 p.c. from the outbreak of war. The growth in the production of aluminum, derived mainly from bauxite ores obtained from British Guiana, was 985,000,000 lb. in 1943 against 164,000,000 in 1939. The expansion in metal production since the last peace-time year, despite the unfavourable labour position, reflects credit upon the mining industry, which responded nobly in the face of emergency.

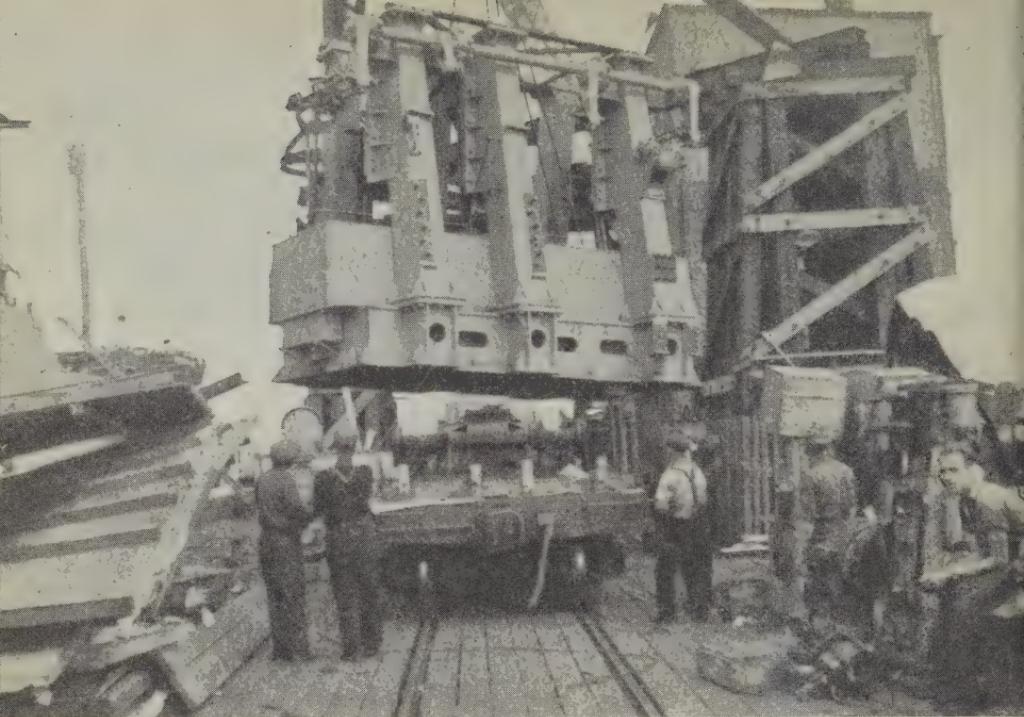
The forestry industries of Canada, based upon 1,200,000 sq. miles of forested areas, are of great importance to the national economy. Their basic activity is logging, which operated at considerably higher levels in 1944 than in the preceding year, as shown by an increase of 17 p.c. in employment afforded. A larger cut of saw-logs, pulpwood and other forest products was realized in response to increased and urgent demands. Newsprint production, estimated at about 3,000,000 tons, was slightly greater than in 1943. The exports of wood, wood products and paper in the first ten months, valued at \$363,000,000, were about \$47,000,000 greater than in the same period of the preceding year. Canadian newsprint mills, during recent years, have been the mainstay of a free press in more than 40 countries.

Canada's vast forest estate consists not merely in timber values, but represents as well the source of water power, locations for complementary agricultural communities, and resources of fish, game and natural beauty. Because of the co-operation between the chemist and the lumberman, the myriad uses of wood are now more fully realized.

Hydro-electric power is of supreme importance to the great industries of the St. Lawrence valley, a territory without a natural supply of coal. During the four years of war between the end of 1939 and the end of 1944 nearly 2,000,000 h.p. were added to hydro-electric installations, which were 10,283,000 h.p. at the close of 1944. The production of electric power in 1944 was about 40,000,000,000 kwh. and the consumption of firm power surpassed all previous experience.

The war-stimulated expansion of Canadian manufacturing production is so obvious that no extended exposition is needed. It is a story of industrial evolution having a vast potential effect upon the population destiny of the Dominion. Canadian industries continued in 1944 to keep production at a high level so that the fighting forces would have the needed material support. The magnitude of the transformation is indicated by the increase during 1943 over 1939 of 140 p.c. in the net value of production with a further advance in 1944. The number of employees increased 92 p.c. while the payroll rose 160 p.c.

In the most recent months the prospects for an early victory have brought about some decline in the numbers of employees in the groups of industries that had shown most rapid expansion during the War, namely, the iron and steel group, the non-ferrous metals and the chemicals. This decline has been accompanied by an



A Corvette Engine being Lowered to a Railway Car for Shipment to the Seaboard.

Courtesy, Canadian National Railways

approximately equivalent expansion in the non-war industries, particularly in food products, and the trend of the times is seen in the removal of restrictions on the use of certain metals and other materials in production for civilian consumption.

The operations of the construction industry, measured by records of employment, were at lower levels than in 1943, but the situation in regard to the placement of contracts was decidedly more favourable. Contracts awarded in the first ten months of 1944 were nearly 45 p.c. greater. The considerable new business placed during those ten months and the record of contemplated new construction indicates heavy operations upon the termination of the War and the removal of disabilities regarding men and materials.

The railways were called upon to handle more freight and passenger traffic during 1944 than in any other year. Passenger traffic, owing partly to the restrictions on gasoline, was about four times that of 1939 and the great increase in service was provided with very small increase in passenger equipment. The estimated tonnage of freight hauled was 122 p.c. greater than in 1939, and the ton-mileage of freight handled was about 167 p.c. greater. In other words, with little additional equipment, eight tons of freight were hauled one mile in 1944 for every three tons hauled one mile in 1939. The gain in gross revenue of the Canadian Pacific Railway from the first of the year to November 21, over the same period of 1943, was from \$261,000,000 to \$284,000,000, although revenues of the Canadian National Railways remained at approximately the same level in the first nine months of 1944 as in the same period of 1943. The street railways providing local transportation have also done a magnificent job for the war effort by providing increased service in the growing centres of war industry despite the lack of new equipment and of sufficient trained operators.

Although in the past five years the production of many lines of consumer goods has been restricted and the Canadian people have made a heavy contribution in the purchase of war bonds and taxation payments, an upward trend has been shown in distribution through retail outlets. The increase of about 70 p.c. since the last peace-time year is due mainly to an advance in the quantity of goods purchased, the upward movement in retail prices being of relatively small proportions.

Income payments to individuals have doubled since 1938, and even after the payment of direct taxes the income at the disposal of individuals has been greatly increased in the past six years. Personal savings, as indicated by bank deposits and the purchase of Dominion bonds, are obviously a large slice of the disposable income, but the residue has been sufficiently large to exert an inflationary strain.

The exports of Canadian products reached \$2,861,000,000 in the first ten months exceeding by no less than \$482,000,000 the figures of the same period of 1943. The advance consisted mainly in the outward flow of food for the feeding of the less-favoured nations. When the net exports of new non-monetary gold of over \$100,000,000 are added, it is probable that the total shipments of Canadian products abroad will attain a level of \$3,600,000,000 or about \$12,000,000 per working day. Export trade is thus a potent stimulating force in the Dominion's economic life.

Manpower is by far the most important resource of the nation and the activity of the gainfully occupied provides the primary basis of the country's standard of living. The volume of employment was maintained in 1944 with minor readjustments toward consumer goods industries, the scarcity of labour having become acute in a number of essential activities. The index of employment in eight leading industries was practically maintained at 182.7 in the first ten months of 1944 against 183.0 in the same period of 1943.

The generally high level of productive and distributive activity throughout the Dominion was reflected in the increasing ordinary revenue of the Dominion, which for the first seven months of the current fiscal year amounted to \$1,606,000,000 or an advance of \$83,000,000 over the same period of the preceding year. Bank debits in the first ten months of 1944 were nearly 14 p.c. greater than in the same period of 1943. The money supply, consisting of coin and bank notes and deposits subject to cheque, rose from \$2,722,000,000 in September, 1938, to \$5,748,000,000 in October, 1944, an increase of 111 p.c. Total payments by cash and cheque recorded a gain of about 105 p.c. in the same comparison.

To sum up, economic progress in Canada was still in evidence during the year 1944. Though the scarcity of labour and materials placed a handicap on productive operations, the high levels of the preceding year were generally surpassed, resulting in a new maximum.



THE IRON-ORE DEVELOPMENTS AT STEEP ROCK AND THEIR IMPORTANCE TO CANADA

The arrival at Cleveland on Oct. 14, 1944, of the first shipment of 12,213 tons of Steep Rock ore aboard the steamer *Pontiac* marked an important milestone in the history of Canada's iron and steel industry. Steep Rock is the first big producer of high-grade haematite ore in Canada since the exhaustion of the Helen Mine, in the Michipicoten area of Ontario, in 1918.

Canada has never been a substantial producer of iron ore, although a large iron and steel industry has been built up on the basis of imported Newfoundland and United States ores. Iron is, in fact, so essential to the Canadian economy that, in addition to the large domestic production of iron and its products, total annual imports over the pre-war five-year period, 1935-39, averaged almost the same in value as the total annual output of Canadian gold in the same period, viz., \$146,000,000 as against \$148,000,000.

The word "gigantic" appropriately describes the engineering feat at Steep Rock that has opened up a large deposit of iron ore of the highest quality. Prior to the development, the three ore bodies that give such great value to the mine were buried beneath Steep Rock Lake, a body of water about fifteen miles long and ranging in depth from 40 to 265 feet. The bed of the lake consists of gravel and clay with a thickness of from 40 to 310 feet before bed rock is reached. Underground methods of developing the "A" ore body were attempted but proved difficult. At the same time the "B" ore body was delimited by diamond drilling. This deposit was situated in the shallowest part of the lake and could be made amenable to low-cost open-pit mining. The company decided to empty the lake, an operation involving the diversion of the whole drainage system in an area of 1,500 square miles. (See map at p. 49.)

It was necessary in order to carry out such an ambitious project to envisage the expenditure of nearly \$15,000,000 without the definite assurance that, on completion of the pre-production development program, ore in commercial quantity and of the required quality would be found. Drilling had indicated the presence of the ore, but the fact remains that the governments and the financiers who backed the company admittedly took part in one of the greatest "gambles" in the history of mining.

The beginning of shipments of high-grade iron ore from Steep Rock Lake in September, 1944, is a very definite accomplishment in Canada's evolution in the field of iron and steel production. It opens wide the door to large-scale industrial development at the very dawn of the most promising era in the history of Canada.

Summary of Previous Iron-Ore Developments in Ontario.—A recapitulation of the history of iron mining in the Province of Ontario, which has produced more iron ore than any of the other Canadian provinces, shows that production of that important

This article has been prepared, and illustrations supplied, specially for *Canada 1945* by H. C. Rickaby, A.I.M.E., Deputy Minister, Department of Mines for Ontario, Toronto.

raw material commenced early in the nineteenth century and was mainly centred in the eastern part of the Province, in Hastings County and the surrounding district. Operations for a time were sporadic and production at a profit uncertain, with the result that output of ore from Canadian sources had practically ceased by 1890.

In 1896 the Dominion and Provincial Governments inaugurated a system of bounties to encourage the manufacture of iron and steel from Canadian raw materials, with beneficial results. Blast furnaces were erected at a number of points in Ontario and Nova Scotia. As Canadian ores were either too low in iron or too high in impurities, efforts to encourage their use met with only moderate success. The Helen Mine, north of Sault Ste. Marie on Lake Superior, was an exception. During its life, this mine shipped close to 3,000,000 tons of high-grade haematite, which found a ready market.

With the exhaustion of the Helen ore in 1918 the Canadian blast furnaces obtained their ore almost entirely from the United States and Newfoundland. Bounties offered by the Ontario Government encouraged Algoma Ore Properties, subsidiary of the Algoma Steel Company of Canada, to work the reserves (estimated at 100,000,000 tons) of siderite or carbonate ore at the New Helen Mine in 1937, and to erect a sintering plant at Wawa in the Michipicoten area in 1938. Initial production of sintered ore from iron carbonates was begun in the summer of 1939. This project has been successful and its product is a desirable charge for the blast furnace. The insatiable demand of the War for steel and the depletion of deposits of high-grade ores in the Lake Superior mines stimulated the search in Canada for new sources of such ores. Some very interesting results were obtained in the District of Algoma, but the most promising and extensive new find has been the one located at the bottom of Steep Rock Lake and owned by Steep Rock Lake Iron Mines, Limited.

The Steep Rock Development.—The first mention of iron-ore deposits under the waters of Steep Rock Lake was made by two members of the Geological Survey of Canada. A map published in the 'nineties contained the following marginal note:

A Battery of Special Pumps in the Process of Dewatering Steep Rock Lake.





The "Hump", after Steep Rock Lake was partly dewatered,

"An iron-bearing horizon with haematite of good quality appears to be covered by the waters of Steep Rock Lake". Large fragments of "float" haematite were found on Float Ore Island in the southwest section of the central part of the Lake. Claims were staked in the vicinity of the Lake before the year 1900, and in 1902 two drills were set up at Mosher Point, overlooking what is now called the "B" ore body. It is said that these drills would have intersected ore had they been at a slightly different angle.

No further information was obtained until in 1937 Julian G. Cross, geologist of Port Arthur, undertook an intensive study of the problem and interested the late Joseph Errington in the search. A company known as the Steerola Exploration Company, Limited, was formed to explore the lake bottom by a series of diamond-drill holes put down through the ice. Mr. Cross was convinced that the evidence of high-grade float ore only 50 to 75 miles north of the Vermilion and Mesabi iron ranges in Minnesota was too definite to pass up without complete exploration with all the modern tools at the command of the mining engineer. Accordingly, during the winter of 1937-38, twelve diamond-drill holes were put down through the ice. Of these, seven struck haematite of good grade.

Work was speeded up the next winter by the assistance of geophysicists, who carried out a survey on the ice. This survey helped to determine the limits of three ore zones designated as "A", "B", and "C" (see map at p. 49).

The Amount and Quality of the Deposit.—From January, 1938, to July, 1943, 305 diamond-drill holes for a total footage of 102,997 feet (19 miles) were put down and, in addition, 74 holes were bored with churn drills for a total footage of 27,797 feet. The drilling disclosed an estimated 17,244,080 tons of proven ore and 14,336,006 tons of probable ore, or a total of 31,580,086 tons in the "A" and "B" ore zones.



looking across to Mosher Point and the "B" Orebody.

Dried ore samples supplied by drilling operations indicated ore in the "A" and "B" zones averaging 61.12 p.c. iron, 0.031 p.c. phosphorus, 3.71 p.c. silica, and 0.038 p.c. sulphur. Only a few holes intersected the "C" ore body, but these indicated an ore of the same high quality.

One of the chief advantages of the Steep Rock Lake ore is its high content of "natural" iron (percentage of iron in the undried ore as shipped), averaging 56.25 p.c. as against 52 p.c. for ore shipped from the Lake Superior District. Its silica content of 3.40 p.c. is extremely low. This enables it to be used as a 'sweetener' for other ores carrying a high percentage of silica. For instance, furnace requirements call for a silica content of about 8 p.c., and operators in the Lake Superior district are finding it increasingly difficult to ship a product that meets this requirement. One ton of Steep Rock ore used as a 'sweetener' for two tons of Lake Superior ores carrying 10.3 p.c. silica would produce three tons of furnace feed ore averaging 8 p.c. silica.

Steep Rock ore is also adapted to open hearths because it is classed as "Old Range" ore, meaning that it is lump ore producing little 'minus 100-mesh' material. This fact led to experiments to determine its possibilities as open-hearth charge ore. After preliminary experiments at the Battelle Memorial Institute, a full-scale run in the open-hearth furnaces of the Republic Steel Corporation at Buffalo, in which 33,000 pounds of Steep Rock "float ore" in lumps was used, indicated that it was eminently suited for charge purposes.

The results of these tests, as presented in a report to shareholders of the Steep Rock Iron Mines, Limited, are as follows:—

"(1) The quality and ease of removal of the flush slag indicated rapid chemical reaction with consequent faster heat time and higher tonnage per unit of time.

"(2) The analysis of the flush slag indicated lower total iron losses than is normal when using 70 p.c. hot-metal heats. (Actually 71.75 p.c. was used.) This is consistent with the fact that this heat produced 89.15 p.c. ingot yield, compared with a normal of 88 p.c.

"(3) The time of steel-making was reduced from 10 hours, 17 minutes, which is the normal average of this furnace, to 8 hours, 35 minutes.

"(4) Normally, steel is made in the open hearth using 50 p.c. pig iron and 50 p.c. scrap metal, with the proper amount of limestone and hard ore. Because of the scarcity of scrap, the amount of pig iron has been raised until the ratio is now approximately 55 p.c. pig iron and 45 p.c. scrap. In the test run the ratio was raised to 71.76 p.c. pig iron to 28.24 p.c. scrap, with satisfactory results. Use of Steep Rock ore apparently permits use of much less scrap. Leading metallurgists have calculated that with 2,000,000 long tons of this Steep Rock ore available per annum, a saving of 9,000,000 long tons of scrap per year can be made."

In addition to its high qualities as open-hearth ore, the Steep Rock ore, owing to its low phosphorus content (673 samples showed 0.017 p.c.), is not only of Bessemer grade but well below the Bessemer limit (0.045 p.c.). This would make it possible to mix one ton of the Steep Rock ore with one or more tons of the usual non-Bessemer grade to produce two or more tons of Bessemer grade.

The Exploitation of the Deposit.—The problem of exploiting the ore deposits lying beneath billions of tons of water and overburden was then tackled. When a shaft was put down and a cross-cut driven underneath the lake, the impossibility of reaching the ore bodies because of uncontrollable water flow from above was revealed, and it was found that the Lake would have to be dewatered in order to reach the objective. This meant that the Seine River would have to be diverted around Steep Rock Lake because the Lake was part of the river system. The map (p. 49) indicates the original flow and the diverted water route. The existence of a power-generating plant at the head of the Lake complicated matters. The Steep Rock staff made a thorough study of the diversion and found it to be within economic range; they figured out that the cost of the project could be later paid back from mining operations.

The general diversion plan included the cutting off of the west arm of Steep Rock Lake by means of dams in the narrows from the central section of the "M" shaped lake, the stopping of the flow at the head of the Lake, and the rerouting of the water from Marmion Lake across Raft Lake into Finlayson Lake and thence, from the south end of this Lake, through a channel into the north end of the West Arm of Steep Rock Lake, from which point the waters return to the Seine River system.

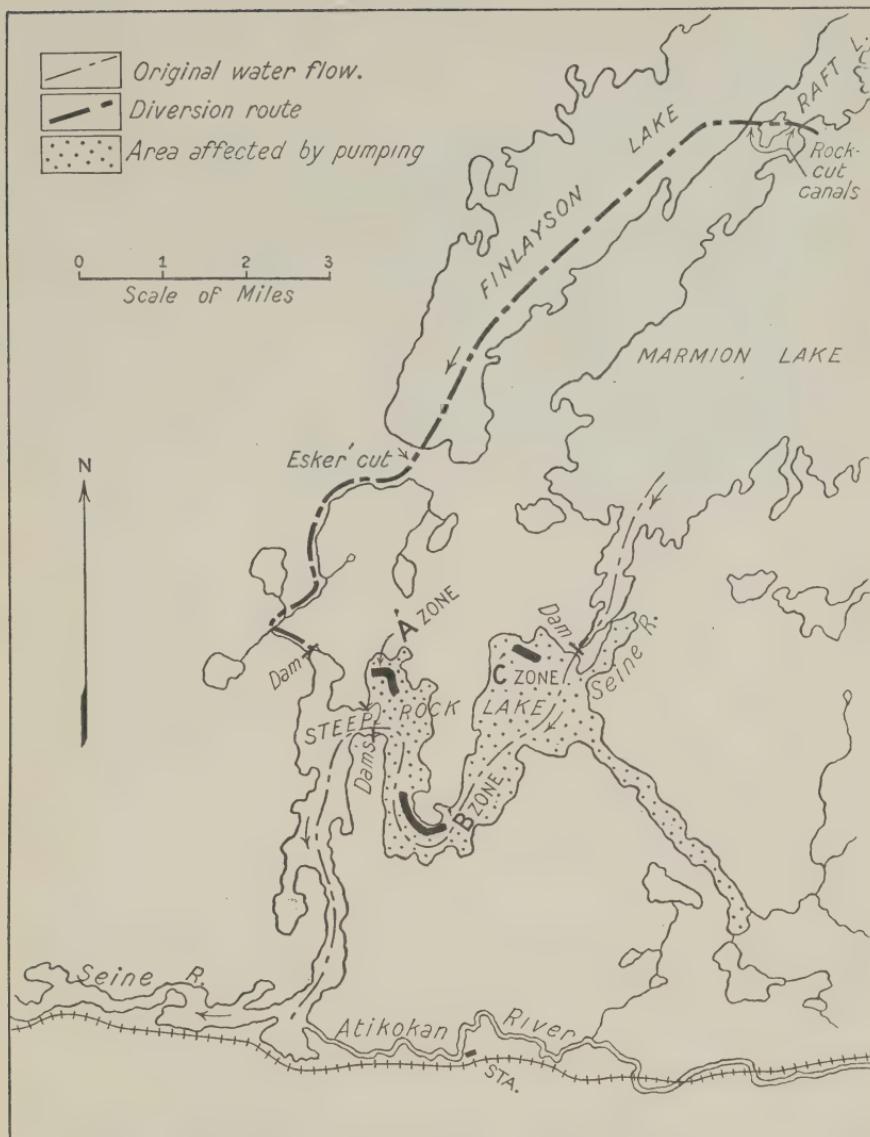
This immense project involved the following works:—

(1) Construction of a road 22 miles long to carry heavy trucks and equipment from Atikokan to Finlayson and Raft Lakes.

(2) The driving of a tunnel 10 feet by 12 feet for a distance of 1,200 feet under a ridge at the south end of Finlayson Lake. By this means Finlayson Lake, whose level had normally been 30 feet above that of Marmion Lake, could be lowered by about 60 feet. The tunnel also gave a controlled discharge from the Lake during lowering of the level.

(3) The cutting of a channel through the ridge mentioned in (2). This was done after the tunnel had lowered Finlayson Lake to the desired level. The work involved the removal of 1,200,000 cubic yards of gravel and 70,000 cubic yards of rock.

(4) Dewatering of Raft Lake, the volume of water being half a billion gallons.



(5) Excavation of cuts connecting Finlayson Lake with Raft Lake and Raft Lake with Marmion Lake. These cuts are 100 feet wide and have a total length of 4,000 feet.

(6) Construction of a concrete spillway across the bed of Raft Lake to control the flow of the diverted river, because Marmion Lake is still a reservoir.

The program was completed substantially on schedule and pumping operations began in anticipation of mining operations. The part of the Lake which had to be



"B" Orebody Pit showing Dredges, Monitors and Two Churn Drills at Work.

dewatered is twelve miles long and before pumping had a surface area of four square miles. Approximately 70,000 million gallons of water had to be pumped in order to lower the Lake sufficiently to permit mining.

When the Lake was at 80 feet below its normal level, it was separated into two parts by a hump; and at 100 feet below normal level there was about 4,000 square feet of lake bottom exposed around the "B" ore body. A haulage road was established, across the hump, from the uncovered ore zone across to the site of the crusher on the west shore.

Removal of the overburden in the open pit by the use of power shovels, monitors, and other stripping machines uncovered solid ore on Aug. 1, 1944.

In the meantime a spur line of railway was built from Atikokan to the property, a distance of $4\frac{1}{2}$ miles, and two hundred and fifty ore cars were ordered by the Canadian National Railways to handle the ore from the mine to Port Arthur. Until completion of the loading docks at Port Arthur, however, all ore must be hauled through Fort Frances to Duluth.

Estimated Production and Costs.—The Company expected to ship a considerable tonnage of ore to the first of December, and it is planned to increase shipments to 1,000,000 tons during the shipping season of 1945, further increasing the tonnage over a period of two or three years to 2,000,000 long tons annually.

Estimated costs of production furnished by the Company's consulting engineers indicate that a long ton of the ore can be delivered at the lower lake ports for \$3.239 Canadian currency, exclusive of interest, amortization, and Dominion taxes. As the present prices of comparable United States ores are slightly in excess of \$6 per ton Canadian funds, a profitable operation is indicated.

Arrangements for the financing of this project, involving the raising of a large amount of capital without losing control of the project, took considerable time. Finally sufficient interest in the project was aroused and financing, sufficient to carry the development program to completion, was arranged.

The Canadian, United States, and Ontario Governments, as well as private interests, participated directly or indirectly in the financing details. A loan of \$5,000,000 was advanced by the Reconstruction Finance Corporation of Washington, D.C., and \$2,250,000 was secured through the sale of bonds to private investors. Commitments by the Canadian Government, covering transportation and ore-loading facilities, and by the Ontario Government, through the Hydro-Electric Power Commission, approximate \$5,000,000. Expenditures estimated at \$1,000,000 for the exploration of the deposit prior to 1943 would seem to be reasonable.

Summary.—Summarizing Steep Rock's history, it was Cross who became convinced that the float boulders demanded real attention and it was he who kindled the enthusiasm of Errington. The latter called in Dr. Brant. Utilizing geophysical methods and diamond drilling, the company made a mass attack on the problem. It was the driving force of Errington and Cross that collected the 116 claims comprising 7,000 acres, including all of Steep Rock Lake and much of the adjacent country, that were eventually incorporated in the Steep Rock Iron Mines, Ltd. Roberts and Bartley through their studies indicated the source of the ore, noted the possibilities of dewatering the lake, and pointed out the possibilities of early open-pit mining followed by underground workings, having established the fact that the tightness of the rock formations would eliminate water seepage into the deep workings. The problems concerned with the removal of the water itself and the general production and development plans were handled by Canadian consulting engineers.

Officers of the Company pushed the development work through to completion, arranged for the money, and enlisted the aid of the Dominion and Provincial Governments.

Loading Bins for Railway Cars at Steep Rock Lake.—The crusher house is shown below to the right.



CHAPTER I

Population—Vital Statistics

Population

The present population of the earth is estimated at approximately 2,170,000,000.* The British Empire, which covers slightly less than one-quarter of the land area of the earth, has an estimated population of 500,774,000† or slightly less than one-quarter of the world's population. Canada, which occupies over one-quarter of the area of the British Empire, has a population of 11,506,655 (1941 Census) or about one forty-fourth of the Empire population. The latest official estimates of population of other British countries are: the British Isles, 50,744,000 (1940); Union of South Africa, 10,889,000 (1943); Australia, 7,226,437 (1943); New Zealand, 1,642,100 (1943); all India, 388,998,000 (1941 census).

Growth of the Canadian Population.—The general rate of population increase in Canada in the opening decade of the present century was 34 p.c., the greatest for that decade of any country in the world. In the second decade the rate was 22 p.c., again the greatest, with the exception of Australia where growth was greater by a fraction of 1 p.c. A century earlier the population of United States grew 35 p.c. decade by decade until 1860, but with this exception there has been no recorded example of more rapid growth than that of Canada in the early decades of the twentieth century. In 1871, only 2·97 p.c. of the population dwelt west of Lake of the Woods. In 1921 the proportion was 28·37 p.c., in 1931, 29·50 p.c. and in 1941, 28·30 p.c.

* The latest figure published in the Statistical Year Book of the League of Nations, 1941-42, gives the population of the world as 2,170,000,000 not including estimates of certain populations, chiefly in Asia and Africa, where censuses are incomplete or do not exist.

† The Statesman's Year Book, 1944.

Population of Canada, Census Years 1891-1941, With Density, 1941

Province or Territory	Land Area in Sq. Miles	Population						Persons per Sq. Mile 1941
		1891	1901	1911	1921	1931	1941	
P.E.I.....	2,184	109,078	103,259	93,728	88,615	88,038	95,047	43·52
N.S.....	20,743	450,396	459,574	492,338	523,837	512,846	577,962	27·86
N.B.....	27,473	321,263	331,120	351,889	387,876	408,219	457,401	16·65
Que.....	523,860	1,488,535	1,648,898	2,005,776 ¹	2,360,510 ²	2,874,662	3,331,882	6·36
Ont.....	363,282	2,114,321	2,182,947	2,527,292 ¹	2,933,662	3,431,683	3,787,655	10·43
Man.....	219,723	152,506	255,211	461,394 ¹	610,118	700,139	729,744	3·32
Sask.....	237,975	—	91,279	492,432	757,510	921,785	895,992	3·77
Alta.....	248,800	—	73,022	374,295 ³	588,454	731,605	796,169	3·20
B.C.....	359,279	98,173	178,657	392,480	524,582	694,263	817,861	2·28
Yukon.....	205,346	—	27,219	8,512	4,157	4,230	4,914	0·02
N.W.T ⁴	1,258,217	98,967	20,129	6,507 ^{1,3}	8,143	9,316	12,028	0·01
Canada ..	3,466,882	4,833,239	5,371,315	7,206,643	8,787,949 ²	10,376,786	11,506,655	3·32

¹ Corrected as a result of the Boundaries Extension Acts, 1912.

² Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927. The total for Canada includes 485 members of the Royal Canadian Navy who were recorded separately in 1921.

³ Corrected by transfer of population of Fort Smith (368) to the Northwest Territories.

⁴ The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.



Winnipeg, the Gateway to the Canadian West.—The intersection of Portage Avenue and Main Street is the heart of the city's business district. The Legislative Buildings may be seen on the extreme left.

Courtesy, Manitoba Travel and Publicity Bureau

Rural and Urban Population.—For the purposes of the Census, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. On the basis of this classification, urban communities absorbed 60.22 p.c. of the total increase in population between 1931 and 1941, with the result that the urban population of Canada in 1941 exceeded the rural by 998,177. Out of every 1,000 persons in the country, 457 were resident on June 2, 1941, in rural and 543 in urban communities, as compared with 463 in rural and 537 in urban communities on June 1, 1931. Of all the provinces, Quebec showed the largest urban percentage, followed by Ontario; Prince Edward Island had the largest percentage of rural population. During the past decade, the continual growth of manufacturing and industrialization has accounted for the movement of population to urban centres.

Rural and Urban Populations, by Provinces, 1931 and 1941

Province or Territory	1931		1941		Numerical Increases 1931-41	
	Rural	Urban	Rural	Urban	Rural	Urban
Prince Edward Island.....	67,653	20,385	70,707	24,340	3,054	3,955
Nova Scotia.....	281,192	231,654	310,422	267,540	29,230	35,886
New Brunswick.....	279,279	128,940	313,978	143,423	34,699	14,483
Quebec.....	1,061,056	1,813,606	1,222,198	2,109,684	161,142	296,078
Ontario.....	1,335,691	2,095,992	1,449,022	2,338,633	113,331	242,641
Manitoba.....	384,170	315,969	407,871	321,873	23,701	5,904
Saskatchewan.....	630,880	290,905	600,846	295,146	-30,034	4,241
Alberta.....	453,097	278,508	489,583	306,586	36,486	28,078
British Columbia.....	299,524	394,739	374,467	443,394	74,943	48,655
Yukon.....	2,870	1,360	3,117	1,797	247	437
Northwest Territories.....	9,316	Nil	12,028	Nil	2,712	-
Canada.....	4,804,728	5,572,058	5,254,239	6,252,416	449,511	680,358

Some of the larger cities have in their neighbourhoods "satellite" towns or other densely settled areas in close economic relationship with the central municipality. Computed on the basis of "greater" or "metropolitan area", the total populations at the Census of 1941 were as follows: "Greater Montreal", 1,139,921; "Greater Toronto", 900,491; "Greater Vancouver", 351,491; "Greater Winnipeg", 290,540; "Greater Ottawa", 215,022; "Greater Quebec", 200,814; "Greater Hamilton", 176,110; "Greater Windsor", 121,112; "Greater Halifax", 91,829; "Greater London", 86,740; "Greater Victoria", 75,218; "Greater Saint John", 65,784.

Populations of Cities and Towns having over 20,000 Inhabitants,
Census Years 1891-1931

NOTE.—Urban centres in which a Board of Trade exists are indicated by an asterisk (*), and those in which there is a Chamber of Commerce by a dagger (†). In all cases the populations for previous censuses have been rearranged to cover the same areas as in 1941.

City or Town	Province	Populations					
		1891	1901	1911	1921	1931	1941
*Montreal.....	Quebec.....	254,278	325,653	490,504	618,506	818,577	903,007
*Toronto.....	Ontario.....	181,215	218,504	381,833	521,893	631,207	667,457
*Vancouver.....	British Columbia.....	13,709	29,432	120,847	163,220	246,593	275,353
*Winnipeg.....	Manitoba.....	25,639	42,340	136,035	179,087	218,785	221,960
†Hamilton.....	Ontario.....	48,959	52,634	81,969	114,151	155,547	166,337
*Ottawa.....	Ontario.....	44,154	64,226	87,062	107,843	126,872	154,951
*Quebec.....	Quebec.....	63,090	68,840	78,118	95,193	130,594	150,757
†Windsor.....	Ontario.....	12,607	15,198	23,433	55,935	98,179	105,311
†Edmonton.....	Alberta.....	—	4,176	31,064	58,821	79,197	93,817
*Calgary.....	Alberta.....	3,876	4,392	43,704	63,305	83,761	88,904
†London.....	Ontario.....	31,977	37,976	46,300	60,959	71,148	78,264
†Halifax.....	Nova Scotia.....	38,437	40,832	46,619	58,372	59,275	70,488
†Verdun.....	Quebec.....	296	1,898	11,629	25,001	60,745	67,349
*Regina.....	Saskatchewan.....	—	2,249	30,213	34,432	53,209	58,245
*Saint John.....	New Brunswick.....	39,179	40,711	42,511	47,166	47,514	51,741
†Victoria.....	British Columbia.....	16,841	20,919	31,660	38,727	39,082	44,068
*Saskatoon.....	Saskatchewan.....	—	113	12,004	25,739	43,291	43,027
†Three Rivers.....	Quebec.....	8,334	9,981	13,691	22,367	35,450	42,007
†Sherbrooke.....	Quebec.....	10,097	11,765	16,405	23,515	28,933	35,965
*Kitchener.....	Ontario.....	7,425	9,747	15,196	21,763	30,793	35,657
†Hull.....	Quebec.....	11,264	13,993	18,222	24,117	29,433	32,947
†Sudbury.....	Ontario.....	—	2,027	4,150	8,621	18,518	32,203
*Brantford.....	Ontario.....	12,753	16,619	23,132	29,440	30,107	31,948
Outremont.....	Quebec.....	795	1,148	4,820	13,249	28,641	30,751
†Fort William.....	Ontario.....	2,176	3,633	16,499	20,541	26,277	30,585
†St. Catharines.....	Ontario.....	9,170	9,946	12,484	19,881	24,753	30,275
†Kingston.....	Ontario.....	19,263	17,961	18,874	21,753	23,439	30,126
*Timmins.....	Ontario.....	—	—	—	3,843	14,200	28,790
*Sydney.....	Nova Scotia.....	2,427	9,909	17,723	22,545	23,089	28,305
†Oshawa.....	Ontario.....	4,066	4,394	7,436	11,940	23,439	26,813
Westmount.....	Quebec.....	3,076	8,856	14,579	17,593	24,235	26,047
*Sault Ste. Marie.....	Ontario.....	2,414	7,169	14,920	21,092	23,082	25,794
†Peterborough.....	Ontario.....	11,391	12,886	18,360	20,994	22,327	25,350
*Glace Bay.....	Nova Scotia.....	2,459	6,945	16,562	17,007	20,706	25,147
†Port Arthur.....	Ontario.....	2,698	3,214	11,220	14,886	19,818	24,426
*Guelph.....	Ontario.....	10,537	11,496	15,175	18,128	21,075	23,273
*Moncton.....	New Brunswick.....	8,762	9,026	11,345	17,488	20,689	22,763
*New Westminster.....	British Columbia.....	6,678	6,499	13,199	14,495	17,524	21,967
Moose Jaw.....	Saskatchewan.....	—	1,558	13,823	19,285	21,299	20,753
†Nlagara Falls.....	Ontario.....	4,528	5,702	9,248	14,764	19,046	20,589
†Shawinigan Falls.....	Quebec.....	—	—	4,265	10,625	15,345	20,325
†Lachine.....	Quebec.....	4,819	6,365	11,688	15,404	18,630	20,051

Sex and Age Distribution.—The population of Canada in 1941 was made up of 5,900,536 males and 5,606,119 females. Thus there were 513 males and 487 females per 1,000 population as compared with 518 males and 482 females in 1931. The trend of masculinity has decreased in late years due to the falling off in immigration which

is always a strong influence in building up a masculine predominance in the age groups between 15 and 30 years. However, for 1941 the provinces of Prince Edward Island and New Brunswick showed a small increase in masculinity compared with 1931; elsewhere (with the exception of the Northwest Territories where the masculinity showed a substantial increase from 538 per 1,000 in 1931 to 557 in 1941) the proportion of females has increased.

The most substantial increases in the proportion of females were in Yukon from 332 females per 1,000 in 1931 to 358 in 1941, and in British Columbia from 445 females in 1931 to 468 in 1941. Other provinces showing appreciable increases were Alberta, Saskatchewan and Manitoba.

Percentage Distribution of Population by Sex and Age Groups, by Provinces, 1941

Age Group	Prince Edward Island		Nova Scotia		New Brunswick		Quebec		Ontario		Manitoba	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Under 10 years	10.2	9.9	10.0	9.7	10.8	10.6	10.6	10.4	8.0	7.8	8.6	8.3
10-19 years	10.0	9.6	9.8	9.5	10.6	10.4	10.7	10.7	8.9	8.6	9.7	9.6
20-29 "	8.9	7.7	9.3	8.8	9.0	8.2	8.7	9.0	8.6	8.4	9.2	9.1
30-39 "	6.4	5.3	6.8	6.0	6.4	5.9	7.0	6.9	7.5	7.1	7.0	6.7
40-49 "	5.3	5.0	5.2	5.0	5.0	4.8	5.3	5.1	6.5	6.2	5.9	5.5
50-59 "	4.4	4.2	4.3	4.1	4.1	3.8	3.9	3.7	5.4	5.1	5.9	4.6
60-69 "	3.5	3.3	3.3	3.0	3.1	2.8	2.5	2.4	3.5	3.5	3.6	2.7
70 or over.	3.1	3.2	2.5	2.7	2.2	2.3	1.5	1.6	2.3	2.6	1.9	1.7
All Ages.	51.8	48.2	51.2	48.8	51.2	48.8	50.2	49.8	50.7	49.3	51.8	48.2
	Saskatchewan		Alberta		British Columbia		Yukon		Northwest Territories		Canada	
Under 10 years	9.8	9.5	9.6	9.3	7.1	6.9	8.7	8.9	13.4	12.7	9.2	9.0
10-19 years	10.8	10.5	9.9	9.7	7.9	7.7	6.3	5.9	9.5	9.2	9.8	9.6
20-29 "	9.1	8.5	8.9	8.5	8.6	8.7	11.0	7.4	10.1	7.4	8.8	8.6
30-39 "	6.7	5.9	7.5	6.3	7.7	6.7	11.9	5.0	9.5	6.0	7.2	6.7
40-49 "	5.8	4.8	6.4	5.0	6.6	5.7	6.8	3.2	6.1	4.1	5.9	5.5
50-59 "	6.0	4.0	6.2	4.1	7.5	5.4	6.4	2.6	4.1	2.5	5.1	4.4
60-69 "	3.5	2.2	3.5	2.3	5.2	3.6	7.3	1.9	2.3	1.6	3.3	2.9
70 or over.	1.6	1.3	1.6	1.2	2.6	2.1	5.8	0.9	0.7	0.8	2.0	2.0
All Ages.	53.3	46.7	53.6	46.4	53.2	46.8	64.2	35.8	55.7	44.3	51.3	48.7

Conjugal Condition.—In Canada as a whole there are more married males than married females because of the excess of married male immigrants. Other striking statistics of conjugal condition are the great preponderance of widows compared to widowers and the large and increasing numbers of divorced or legally separated, but the reasons for these figures are more apparent.

The number of persons divorced and legally separated per 1,000 population varies widely between the provinces. British Columbia leads with 4.0 for the divorced and 11.1 for the legally separated; Quebec and Prince Edward Island are at the lower end of the scale with 0.3 and 5.0, respectively, for the former and 0.4 and 4.0, respectively, for the latter. Between these extremes, Ontario shows rates of 1.4 and 8.5, respectively; Alberta, 1.9 and 7.2; Saskatchewan and New Brunswick, 0.9 and 5.2; Nova Scotia, 0.9 and 6.7; and Manitoba, 1.5 and 6.9.



A view of the fertile valley of the lower Restigouche River, which here separates the Provinces of Quebec and New Brunswick.

Courtesy, Department of Mines and Resources

Conjugal Condition of the Population, by Provinces and Sex, 1941

Province or Territory	Single	Married	Widowed	Divorced	Legally Separated	Total ¹
MALES						
Prince Edward Island.....	29,828	17,625	1,549	22	202	49,228
Nova Scotia.....	173,506	111,132	9,359	247	1,770	296,044
New Brunswick.....	140,952	85,093	6,695	197	1,137	234,097
Quebec.....	1,027,162	591,533	46,386	500	7,270	1,672,982
Ontario.....	993,265	851,096	60,210	2,291	14,105	1,921,201
Manitoba.....	209,939	155,157	10,268	473	2,218	378,079
Saskatchewan.....	283,297	179,996	11,383	468	2,351	477,563
Alberta.....	243,666	168,469	10,594	801	2,891	426,458
British Columbia.....	215,205	200,027	13,979	1,547	4,213	435,031
Yukon.....	2,029	957	116	17	34	3,153
Northwest Territories.....	3,978	2,443	204	6	10	6,700
Canada.....	3,322,827	2,363,528	170,743	6,569	36,201	5,900,536
FEMALES						
Prince Edward Island.....	24,748	17,473	3,401	19	178	45,819
Nova Scotia.....	148,474	109,513	21,544	268	2,115	281,918
New Brunswick.....	133,540	84,275	14,040	192	1,256	223,304
Quebec.....	981,890	581,569	85,425	646	9,353	1,658,900
Ontario.....	876,215	826,525	142,731	2,865	18,039	1,866,454
Manitoba.....	176,458	151,105	20,625	654	2,818	351,665
Saskatchewan.....	221,557	175,112	18,965	381	2,414	418,429
Alberta.....	186,215	161,953	17,963	717	2,850	369,711
British Columbia.....	165,064	181,932	29,235	1,718	4,878	382,830
Yukon.....	833	810	88	3	27	1,761
Northwest Territories.....	2,747	2,211	361	Nil	8	5,328
Canada.....	2,907,741	2,292,478	354,378	7,463	43,936	5,606,119

¹ Includes persons with conjugal condition not stated.

Racial Origins.—The object of securing information on racial origin at the census is to ascertain from what basic ethnic stocks the Canadian population, more particularly the recently immigrated population, is derived. The answer "Canadian" does not, therefore, apply here. This information is separate altogether from that of nationality or birthplace where the answer "Canadian" or "Canada" is applicable.

Origins of the People, Census Years 1901-41

Origin	1901	1911	1921	1931	1941
British Isles Races—					
English.....	1,260,899	1,871,268	2,545,358	2,741,419	2,968,402
Irish.....	988,721	1,074,738	1,107,803	1,230,808	1,267,702
Scottish.....	800,154	1,027,015	1,173,625	1,346,350	1,403,974
Other.....	13,421	26,060	41,952	62,494	75,826
Totals, British Isles Races.....	3,063,195	3,999,081	4,868,738	5,381,071	5,715,904
French.....	1,649,371	2,061,719	2,452,743	2,927,990	3,483,038
Austrian.....	10,947 ¹	44,036	107,671	48,639	37,715
Belgian.....	2,994	9,664	20,234	27,585	29,711
Bulgarian.....	—	—	1,765	3,160	3,260
Chinese.....	17,312	27,831	39,587	46,519	34,627
Czech and Slovak.....	—	—	8,840	30,401	42,912
Finnish.....	2,502	15,500	21,494	43,885	41,683
German.....	310,501	403,417	294,635	473,544	464,682
Greek.....	291	3,614	5,740	9,444	11,692
Hungarian.....	1,549 ²	11,648 ²	13,181	40,582	54,598
Indian and Eskimo.....	127,941	105,611	113,724	128,890	125,521
Italian.....	10,834	45,963	66,769	98,173	112,625
Japanese.....	4,738	9,067	15,868	23,342	23,149
Jewish.....	16,131	76,199	126,196	156,726	170,241
Negro.....	17,437	16,994	18,291	19,456	22,174
Netherlands.....	33,845	55,961	117,505	148,962	212,863
Polish.....	6,285	33,652	53,403	145,503	167,485
Roumanian.....	354 ³	5,883 ³	13,470	29,056	24,689
Russian.....	19,825	44,376	100,064	88,148	83,708
Scandinavian.....	31,042	112,682	167,359	228,049 ⁴	244,603 ⁴
Ukrainian.....	5,682	75,432	106,721	225,113	305,929
Yugoslavic.....	—	—	3,906	16,174	21,214
Various.....	7,000	31,381	28,796	27,476	67,357
Unspecified.....	31,539	16,932	21,249	8,898	5,275
Grand Totals.....	5,371,315	7,206,643	8,787,949	10,376,786	11,506,655

¹ Includes Bohemian, Bukovinian and Slavic.

² Includes Lithuanian and Moravian.

³ Includes Bulgarian.

⁴ Includes Danish, Icelandic, Norwegian and Swedish; in 1931 they numbered, respectively, 34,118, 19,382, 93,243, 81,306; in 1941, 37,439, 21,050, 100,718, 85,396.

Population of the Eight Leading Origins in Canada, by Provinces, 1941

Province or Territory	Origin							
	British Isles Races	French	German	Ukrainian	Scandinavian	Netherlands	Jewish	Polish
P.E.I.....	78,714	14,799	172	2	152	494	25	1
N.S.....	445,178	66,260	15,038	711	2,353	23,834	2,285	2,206
N.B.....	276,758	163,934	1,394	22	2,929	4,539	1,228	233
Que.....	452,887	2,695,032	8,880	8,006	4,840	2,645	66,277	10,036
Ont.....	2,729,830	373,990	167,102	48,158	27,225	73,001	69,875	54,893
Man.....	360,560	52,996	41,479	89,762	32,620	39,204	18,879	36,550
Sask.....	397,905	50,530	130,258	79,777	68,806	35,894	4,149	27,902
Alta.....	399,432	42,979	77,721	71,868	63,494	20,429	4,164	26,845
B.C.....	571,336	21,876	22,407	7,563	41,560	12,737	3,350	8,744
Canada¹.....	5,715,904	3,483,038	464,682	305,929	244,603²	212,863	170,241	167,485

¹ Includes Yukon and the Northwest Territories.

² Includes 37,439 Danish, 21,050 Icelandic, 100,718 Norwegian and 85,396 Swedish.



Val d'Or, Que.—This is typical of the communities that spring up around northern Ontario and Quebec mines.

Courtesy, Canadian National Railways

Birthplaces.—In addition to, or as supplementary to, the question of racial origin, it is important to know the birthplaces of the population—the number of the population, for instance, born in Canada. Such Canadian born may, of course, be of any racial origin, e.g., English, French, German, etc. The following table gives the birthplaces of the population as shown in the past five decennial censuses. The effects of the large immigration at the beginning of the century are indicated by the drop in the percentage of Canadian born between 1901 and 1911 and the increases in the percentages of other British born and foreign born.

Birthplaces of the Population, Census Years 1901-41

Year	Canadian Born		Other British Born ¹		FOREIGN BORN				Total Population	
					United States Born		Other			
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.		
1901.....	4,671,815	86.98	421,051	7.84	127,899	2.38	150,550	2.80	5,371,315	
1911.....	5,619,682	77.98	834,229	11.58	303,680	4.21	449,052	6.23	7,206,643	
1921.....	6,832,224	77.75	1,065,448	12.12	374,022	4.26	516,255	5.87	8,787,949	
1931.....	8,069,261	77.76	1,184,830	11.42	344,574	3.32	778,121	7.50	10,376,786	
1941.....	9,487,808	82.46	1,003,769	8.72	312,473	2.72	701,660	6.10	11,506,655 ²	

¹ Includes some hundreds of persons born at sea.

² Includes "birthplace not stated".

In 1941, about 95 p.c. of the population of the Maritime Provinces was born in Canada, Quebec had 93 p.c. Canadian born, Ontario 81 p.c., the Prairie Provinces 71 p.c. and British Columbia 63 p.c.

Religions.—Of the total population in 1941 (11,506,655), 4,986,552 or 43.34 p.c. were members of the Roman Catholic faith (including 185,657 Greek Catholics). The United Church of Canada, with 2,204,875 members or 19.16 p.c. of the population, was second and the Anglicans, with 1,751,188 or 15.22 p.c., third. The Presbyterian was the next largest group with 829,147 members or 7.21 p.c. in 1941.

Membership of the Eight Leading Religious Denominations, Census
Years 1901-41

Religious Denomination	1901	1911	1921	1931	1941
Roman Catholic.....	2,229,600	2,833,041	3,389,626	4,285,388 ¹	4,986,552 ²
United Church of Canada.....	—	—	8,728	2,017,375	2,204,875
Anglican.....	681,494	1,043,017	1,407,780	1,635,615	1,751,188
Presbyterian.....	842,531	1,116,071	1,409,406	870,728 ³	829,147 ³
Baptist.....	318,005	382,720	421,730	443,341	483,592
Lutheran.....	92,524	229,864	286,458	394,194	401,153
Jewish.....	16,401	74,564	125,197	155,614	168,367
Greek Orthodox ⁴	15,630	88,507	169,832	102,389	139,629

¹ Includes 186,654 Greek Catholics. ² Includes 185,657 Greek Catholics. ³ These are the "continuing Presbyterians" who did not join with the Methodists and Congregationalists to form the United Church of Canada in the 'twenties. ⁴ Greek Orthodox and Greek Catholics combined under the term Greek Church in 1921; in the Censuses of 1931 and 1941, Greek Catholics are included with Roman Catholics.

Membership of the Eight Leading Denominations, by Provinces, 1941

Province	Roman Catholic ¹	United Church of Canada	Anglican	Presbyterian	Baptist	Lutheran	Jewish	Greek Orthodox
P.E.I.	42,743	24,005	5,739	14,724	5,443	45	18	10
N.S.	188,944	124,301	103,393	47,415	89,272	9,104	2,167	347
N.B.	220,454	63,268	55,155	15,382	88,766	870	1,196	85
Que.	2,894,621	100,196	162,056	56,086	12,303	7,081	65,683	12,040
Ont.	882,369	1,073,425	815,413	433,708	192,915	104,111	69,217	28,383
Man.	203,259	194,001	125,076	43,073	13,267	48,213	18,715	20,777
Sask.	243,734	230,495	117,674	54,856	19,460	104,717	4,076	37,699
Alta.	191,343	193,664	113,279	68,910	32,268	84,630	4,052	34,991
B.C.	113,282	200,817	245,531	94,300	29,780	41,772	3,235	5,198
Yukon.	742	404	2,545	422	75	368	2	67
N.W.T.	5,061	299	5,327	271	43	242	6	32
Canada ..	4,986,552	2,204,875	1,751,188	829,147	483,592	401,153	168,367	139,629

¹ Includes Greek Catholics.

Citizenship.—The basic legal definition of Canadian citizenship is to be found in the Immigration Act, which defines a Canadian citizen as a person included in one of three categories: (1) a person born in Canada, who has not subsequently become a citizen of a foreign State; (2) any British subject who has been domiciled for five years in Canada; (3) any subject of a foreign power who has become naturalized and has not subsequently become an alien or lost Canadian domicile (R.S.C. 1927, c. 93; 21-22 Geo. V, c. 39).

At the present time any alien, regardless of his nationality, may apply for naturalization, but according to Section 4, Part II, of the Imperial Naturalization Act, Jan. 1, 1915, the granting of a certificate of naturalization to the applicant is left entirely to the Minister, who may give or withhold the certificate as he thinks most conducive to the public good. Since Jan. 15, 1932, female British subjects, marrying aliens, retain British nationality, unless they, by their marriage, acquire their husbands' nationalities; and the wives of aliens no longer become British subjects automatically through their husbands' naturalization. They must apply to the Secretary of State.

CANADA 1945

Citizenship of Non-British and Non-French Racial Origins in Canada, 1931 and 1941

Racial Origin	1931			1941		
	British Subjects by Birth or Naturalization	Aliens	Total	British Subjects by Birth or Naturalization	Aliens	Total
Austrian.....	37,332	11,307 ¹	48,639 ¹	33,821	3,890	37,711
Belgian.....	19,295	8,290 ¹	27,585 ¹	25,851	3,853	29,704
Czech and Slovak.....	13,560	16,841 ¹	30,401 ¹	31,977	10,935	42,912
Finnish.....	21,967	21,918	43,885 ¹	30,001	11,674	41,675
German.....	408,128	65,416 ¹	473,544 ¹	439,677	24,949	464,626
Hungarian.....	17,581	23,001 ¹	40,582 ¹	44,133	10,453	54,586
Italian.....	80,829	17,344 ¹	98,173	104,880	7,735	112,615
Jewish.....	129,353	27,373 ¹	156,726	158,821	11,400	170,221
Netherlands.....	133,581	15,381 ¹	148,962 ¹	205,232	7,611	212,843
Polish.....	96,759	48,744 ¹	145,503 ¹	146,624	20,848	167,472
Roumanian.....	21,112	7,944 ¹	29,056 ¹	22,269	2,418	24,687
Russian.....	65,358	22,790 ¹	88,148 ¹	73,168	10,453	83,621
Scandinavian.....	176,452	51,597 ¹	228,049 ¹	221,658	22,895	244,553
Ukrainian.....	182,098	43,015	225,113 ¹	277,832	28,069	305,901
Other European.....	22,666	18,220	40,886	41,221	9,248	50,469
Chinese.....	7,481	39,038	46,519	8,746	25,878	34,624
Japanese.....	15,588	7,754	23,342	17,171	3,978	21,149
Other Asiatics.....	13,086	1,601	14,687	15,533	754	16,287

Relative Growth of Males and Females in Gainful Occupations, 1921-41.—

The percentage of the male population at working ages, i.e., 14 years or over, in gainful occupations has been declining since the 1921 Census, while for females the percentage has been on the increase. If males on Active Service at the census date are excluded from the total gainfully occupied males, the percentage that gainfully occupied males bears to the total male population, 14 years or over, is thus reduced from 83.8 p.c. to 76.7 p.c.

Numbers and Percentages of the Population in Gainful Occupations, Classified According to Sex, Census Years 1921-41

(Exclusive of Yukon and the Northwest Territories)

Census Year	Gainfully Occupied Population			Percentages of Total Population			Percentages of Population 14 Years or Over		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1921.....	3,164,348	2,675,290	489,058	36.1	59.2	11.5	53.3	86.6	17.2
1931.....	3,921,833	3,256,531	665,302	37.8	60.7	13.3	53.8	85.4	19.1
1941 (incl. Active Service).....	4,510,535	3,676,563 ¹	833,972	39.3	62.4	14.9	53.0	83.8	20.2
1941 (not incl. Active Service).....	4,195,951	3,363,111	832,840	36.5	57.1	14.9	49.3	76.7	20.2

¹ Includes 63,518 males on Active Service not gainfully occupied prior to enlistment.

Gainfully Occupied in 1941.—Almost one-third of the gainfully occupied males in Canada were engaged in agricultural operations in 1941, although the proportion in this occupation has been decreasing steadily since the beginning of the century. The proportion in manufacturing industries, on the other hand, has been increasing. Females were employed in appreciable numbers in clerical occupations and in manu-

Indian Chiefs Congratulate Young Braves at a Canadian Army Camp.— Though they are in the Army, Indians of the Six Nations are still subject to patriarchal supervision of their tribal leaders.



Courtesy, *Star*
Newspaper Service

facturing in every province, but by far the largest numbers were found in the service occupations. Considerable proportions were employed in such professional occupations as teaching and nursing, and in such personal service occupations as domestic service, housekeeping and as waitresses.

Numbers and Percentages of the Gainfully Occupied Males and Females, 14 Years of Age or Over, by Occupation Groups, 1941
(Exclusive of Yukon and the Northwest Territories)

Occupation Group	MALES			FEMALES	
	Number		P.C. ²	Number	P.C.
	Including Active Service ¹	Not Including Active Service			
Agriculture.....	1,104,579	1,064,847	31.7	18,969	2.3
Fishing, trapping and logging.....	138,460	131,374	3.9	326	3
Mining, quarrying.....	77,909	71,861	2.1	25	3
Manufacturing.....	615,284	573,574	17.1	129,588	15.6
Construction.....	215,333	202,509	6.0	339	3
Transportation.....	278,402	254,591	7.6	14,065	1.7
Trade.....	292,910	273,059	8.1	82,020	9.8
Finance, insurance.....	33,104	30,576	0.9	816	0.1
Service.....	339,307	316,313	9.4	418,111	50.2
Clerical.....	204,666	182,823	5.4	155,208	18.6
Labourers ⁴	273,925	251,889	7.5	11,655	1.4
Not stated.....	39,166	9,695	0.3	1,718	0.2
All Occupations.....	3,613,045	3,363,111	100.0	832,840	100.0

¹ Includes only males on Active Service with a gainful occupation prior to enlistment.

² Based on column 2. There is very little difference in the percentage distribution of males by occupation groups with Active Service included.

³ Less than 0.05 p.c.

⁴ This group does not include agricultural, fishing, logging, or mining labourers.

Aboriginal Races

According to 1941 Census figures, the aboriginal population amounts in all to little more than 1 p.c. of the total population.

Indians.—Indian affairs are administered by the Indian Affairs Branch of the Department of Mines and Resources under the authority of the Indian Act. Reserves have been set aside for the various bands of Indians in the Dominion and the Indians located thereon are under the supervision of the local agents of the Branch. The activities of the Branch, on behalf of the Indians, include the control of Indian education, the care of health, the development of agriculture and other pursuits among them, the administration of their funds and legal transactions, and the general supervision of their welfare.

The Indian Act provides for enfranchisement of Indians. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem as Indians who become enfranchised lose the special protection of the Indian Act.

According to the Dominion Census of 1941, the total number of Indians was 118,316 (60,182 males and 58,134 females) made up by provinces as follows: P.E.I., 258; N.S., 2,063; N.B., 1,939; Que., 11,863; Ont., 30,336; Man., 15,473; Sask., 13,384; Alta., 12,565; B.C., 24,875; Yukon, 1,508; N.W.T., 4,052.

Eskimos.—The Eskimos of Canada are found principally north of the tree-line on the northern fringe of the mainland and around the coasts of many of the islands in the Arctic Archipelago and in Hudson Bay. Most of the Eskimos are essentially coastal dwellers, obtaining much of their food and clothing from the mammals of the sea. However, there are bands of Eskimos living in the interior of Keewatin District, on the west side of Hudson Bay, who are inland people, and who subsist chiefly on caribou.

The administrative care of Eskimos devolves upon the Lands, Parks and Forests Branch of the Department of Mines and Resources, which, by regulative measures, conserves the natural resources necessary to their subsistence. Contact with the Eskimos is maintained through permanent stations in the eastern, central and western Arctic, at a number of which medical officers are located, and by means of the annual Canadian Eastern Arctic Patrol by steamship. Law and order in all regions in Canada inhabited by Eskimos is maintained by the Royal Canadian Mounted Police.

According to the Dominion Census of 1941, there were 7,205 Eskimos in Canada, 75 p.c. of these being in the Northwest Territories. The distribution by provinces was: N.S., 4; Que., 1,778; Ont., 3; Man., 1; Sask., 4; Alta., 4; B.C., 7; N.W.T., 5,404. Since that time the Northwest Territories Administration has estimated the Eskimos of Quebec at 1,965 which raises the total for Canada to 7,392.

Immigration

Total immigrants into Canada during the fiscal year ended in 1944 numbered 9,040 as compared with 7,445 in 1943 and 8,865 in 1942.

English, Scottish, Irish, and Welsh from overseas numbered 4,278 as compared with 2,418 and 2,182 in 1943 and 1942, respectively; immigrants from the United States totalled 4,441 in 1944 as compared with 4,827 and 6,311, respectively, for the two previous years; from other countries the number was 321 as compared with 200 and 372.

A movement not included in the immigration statistics is that of 'returned Canadians'. These Canadian citizens are divided into three groups: (a) Canadian born; (b) British born (outside of Canada); and (c) naturalized in Canada. The total for 1943-44 was 2,202 as compared with 3,253 in 1942-43.

Although tourists entering Canada are not immigrants, their admission calls for an immigration examination at the International Boundary and at ocean ports. In 1943-44 the number of entries in this class totalled 16,381,000 made up of 10,507,000 tourists, etc., 5,872,000 residents returning and 2,000 Canadians returning after residence in the United States, as mentioned in the preceding paragraph; in 1942-43 the total entries, in round figures, numbered 15,141,000 divided into 10,727,000 tourists, etc., 4,410,000 returning residents and 3,000 returned Canadians.

Vital Statistics

Canada has had a national system of vital statistics since 1926, organized by the Dominion Bureau of Statistics in collaboration with the Registration Officials of the provinces.

National Vital Statistics Index.—At a Dominion-Provincial Conference on Vital Statistics in September, 1944, it was decided that the Dominion and the Provinces would collaborate in the creation of a National Vital Statistics Index for Canada. This index would be used collectively by the several governments in the verification of births, stillbirths, deaths and marriages. Modern mechanical methods such as microfilm and punch-card equipment will be synchronized. The former will permit the rapid transmission of photographic copies of the events registered in the provincial vital statistics offices to the Dominion Bureau of Statistics. In setting up the National Index and for the analysis of the statistical facts, mechanical tabulation processes will be applied to the material on a uniform basis at the Bureau.

Births, Deaths and Marriages in Canada

Province	Births			Deaths			Marriages		
	1943 ¹		1926	1943 ¹		1926	1943 ¹		1926
	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M	No.	Rate per M	Rate per M
Prince Edward Island.....	2,170	23.8	20.1	912	10.0	10.3	653	7.2	5.3
Nova Scotia.....	15,355	25.3	21.3	6,459	10.6	12.4	6,105	10.1	5.6
New Brunswick.....	13,084	28.3	26.1	4,912	10.6	12.6	3,985	8.6	7.4
Quebec.....	98,744	28.6	31.6	35,069	10.1	14.3	33,856	9.8	6.8
Ontario.....	80,752	20.6	21.4	40,970	10.5	11.3	36,106	9.2	7.5
Manitoba.....	16,412	22.6	22.9	7,007	9.7	8.3	6,901	9.5	7.1
Saskatchewan.....	18,504	22.0	25.2	6,654	7.9	7.4	6,172	7.3	6.7
Alberta.....	19,241	24.3	23.8	6,509	8.2	8.5	7,768	9.8	7.4
British Columbia.....	18,773	20.9	16.6	10,002	11.1	9.0	9,384	10.4	7.3
Canada².....	283,035	24.0	24.7	118,494	10.0	11.4	110,930	9.4	7.1

¹ Preliminary figures.

² Exclusive of Yukon and the Northwest Territories.

Births.—From 1926 to 1930 the number of births showed an upward trend rising from 232,750 to 243,495. This movement was reversed until 1939 when the number of births was 229,468 as against 229,446 in 1938. In 1940 the figure rose to 244,316; in 1941 to 255,317; in 1942 to 272,313; and in 1943 to 283,035, the highest ever recorded in Canada. Because of the growing population, the rate per 1,000 births showed a steady drop from 1926 to 1937 of from 24.7 to 20.2, but in 1940 the rate stood at 21.5; in 1941 at 22.2; in 1942 at 23.4; and in 1943 at 24.0.

The influence of war on Canadian births is reflected in the sharp increases in both rates and numbers for the years 1940 to 1943, the rate for 1943 being the highest recorded since 1928.

Deaths.—The ten leading causes of death accounted for well over 77 p.c. of the total deaths in Canada in 1943 and "diseases of the heart", considered as a group, was the most important cause. Cancer was second; incidentally, the death rate from this cause has advanced almost every year from 1926 to 1943, the increase in that period being from 80.7 to 119.7 per 100,000 population; there is every indication of a smoothing out of the rate curve for this disease. This increase in deaths is rather misleading, being due to improvement in diagnostic and X-ray techniques and to the ageing of the Canadian population. Pneumonia, which was in third place in 1926 with a rate of 89.3, dropped in 1943 to seventh place with a rate of 53.6.

Maternal Mortality.—The average rate for the five-year period 1926-30 was 5.7 per 1,000 living births. Since that time there has been a marked improvement in the rate which decreased to 4.0 in 1940 and reached the low figure of 2.8 in 1943.

Infant Mortality.—In Canada during recent years this rate has shown a substantial reduction, falling from 102 per 1,000 live births in 1926 to 61 in 1939 and 56 in 1940. However, in 1941 the rate increased to 60 per 1,000 live births and dropped again to 54 in 1942 and 1943.

Infant Deaths and Death Rates in Canada

Province	Infants under One Year					Rates per 1,000 Live Births				
	1926	1940	1941	1942	1943 ¹	1926	1940	1941	1942	1943 ¹
Prince Edward Island.....	123	137	163	106	97	70	65	80	50	45
Nova Scotia.....	882	802	908	884	897	80	62	65	58	58
New Brunswick.....	1,095	934	936	978	886	106	80	76	77	68
Quebec.....	11,666	5,856	6,770	6,657	6,642	142	70	76	70	67
Ontario.....	5,302	2,959	3,294	3,139	3,383	78	43	46	40	42
Manitoba.....	1,122	756	788	807	909	77	51	53	51	55
Saskatchewan.....	1,681	979	946	788	872	81	51	51	43	47
Alberta.....	1,233	834	879	696	802	85	48	51	38	42
British Columbia.....	588	526	552	596	709	58	38	37	35	38
Canada ²	23,692	13,783	15,236	14,651	15,197	102	56	60	54	54

¹ Preliminary figures.

² Exclusive of Yukon and the Northwest Territories.

Natural Increase.—The birth rate declined from 23.9 in 1930 to 20.2 in 1937, but since 1938 has increased steadily to a rate of 24.0 in 1943. The death rate declined at a somewhat lower rate (a slight increase in 1937, 1941 and 1943) with the result that the rate of natural increase was declining between 1930 and 1937. Since 1938 there has been an increase in this rate. The rate for 1940 was 11.7 per 1,000; for 1941, 12.2; for 1942, 13.7; and for 1943, 14.0.

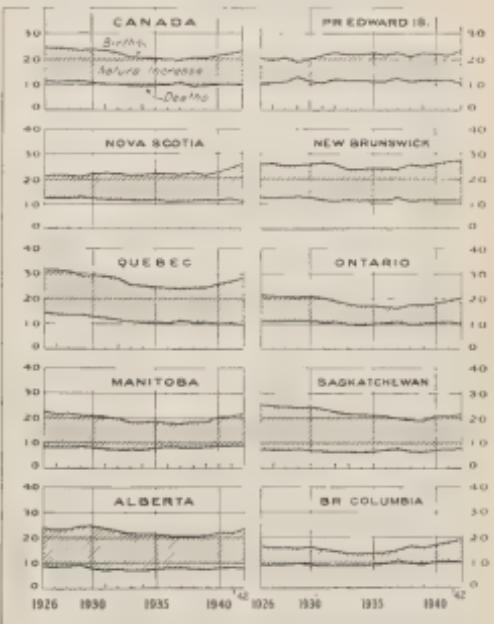
Marriages.—In 1929 marriages in Canada numbered 77,288. The depression exercised a marked influence on marriages and the marriage rate, causing a downward trend until 1933 when a gradual recovery commenced. The increase continued until 1938 when the yearly total for marriages stood at 88,438. The influence of the War is reflected in the abnormally large figures and high rates for the years 1939, 1940, 1941, 1942, and 1943 of 103,658, 123,318, 121,842, 127,372 and 110,930, respectively. The 1942 marriage rate of 10.9 per 1,000 population was the highest Canadian marriage rate on record, the rate for 1943 being slightly lower at 9.4.

GRAPHIC RECORD OF VITAL STATISTICS IN CANADA

1926 - 42

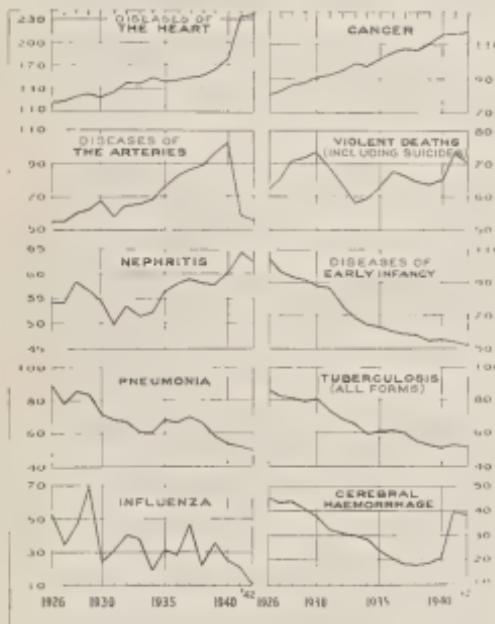
BIRTH RATES, DEATH RATES AND RATES OF NATURAL INCREASE

Rates per 1000 Population



TEN LEADING CAUSES OF DEATH

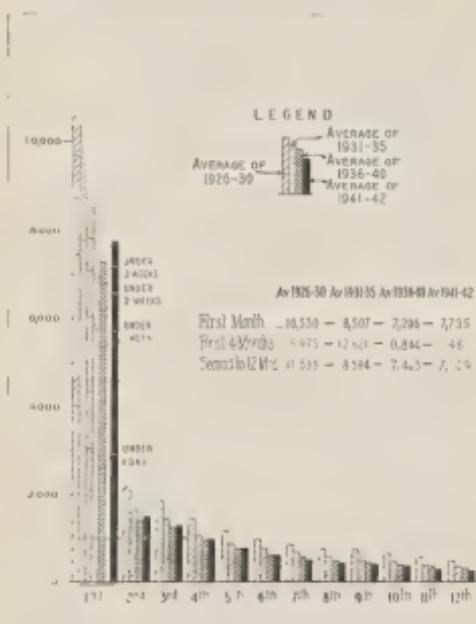
Rates per 100,000 Population



INFANT MORTALITY

FIVE-YEAR AVERAGES

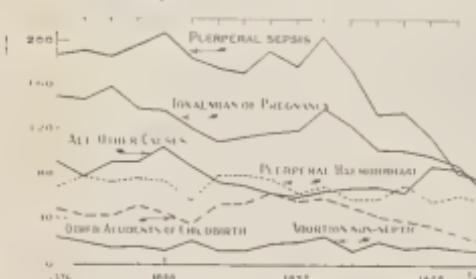
Deaths at each age period



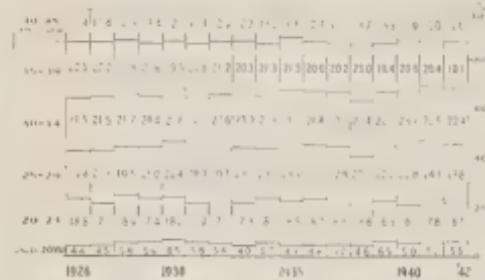
MATERNAL MORTALITY

GROUP CAUSES OF DEATH

Rates per 100,000 Live Births



PERCENTAGE DISTRIBUTION BY AGE GROUPS





Veterans' Hospitals

THE pictures on the top fold are reproductions of two of the largest hospitals to be constructed for the Department of Veterans Affairs. The upper picture shows the Currie Hospital at Montreal, which has a designed bed capacity of 300. The lower picture shows the Veterans' Memorial Hospital at Sunnybrook, Toronto, which has a designed capacity of 1,450 beds and is estimated to cost \$10,000,000. At the time of the establishment of the Department of Veterans Affairs in October, 1944, Prime Minister King stated that the highest possible priorities for both labour and material had been given to the construction of hospitals for servicemen and that the construction of such buildings was being pushed with all possible speed.

Left Top: The Solarium in Hycroft Annex, Shaughnessy Camp Hill Hospital, Halifax. *Centre:* The Occupational Therapy Section at Ste. Anne de Bellevue, Montreal. *Bottom:* The Sun Room in the Veterans' Pavilion at the Ottawa Civic Hospital.

Right Top: Admitting First Patients to Hycroft Annex, Shaughnessy Camp Hill Hospital, Halifax. *Centre:* The Grounds at Shaughnessy Camp Hill Hospital. *Bottom:* The Limbfitting Shop.



MONTREAL

New Hospitals for Veterans, now under Construction at Montreal and Toronto

The Minister of Labour stated publicly, in September, 1944, that first priority in regard to labour was to be given to the construction of Veterans' Hospitals

Courtesy, Department of Veterans Affairs

TORONTO



CHAPTER II

National Income—Survey of Production

National Income

Canada's national income, being a composite of volume and price, is the best measure of economic fluctuations since the end of the War of 1914-18. The total reached a high level of nearly \$4,600,000,000 in 1920, due largely to inflated prices, and fell off by nearly 24 p.c. during the following year. The recovery was practically continuous until 1929 when a maximum of \$5,273,000,000 was recorded. At the low point of the depression, experienced in 1933, the standing was only 52 p.c. of the total for 1929. The temporary setback of 1938 interrupted the subsequent advance, which has been markedly accelerated during the war years. The standing in 1942 was about \$8,000,000,000 compared with \$6,400,000,000 in the preceding year. An increase of at least \$680,000,000 is estimated for 1943.

The income of the Canadian people may be defined briefly as the net value of the goods produced and services rendered. The actual computation is made somewhat as follows: from the gross value of goods and services produced are deducted the cost of materials and services obtained from other enterprises and depreciation charges. The resulting "net" value is the national income. The same result may be achieved by adding together the total payments to individuals in Canada and the savings of Canadian enterprise. By 'savings' is meant that portion of the year's

Huge Piles of Pulpwood Ready for the Paper-Mill.

Courtesy, New Brunswick Government Information Bureau



profit of a given firm or corporation which is retained by the company, as 'surplus', in contrast to that portion paid out to the owners in the form of dividends or withdrawals.

It is apparent from the foregoing that national income may be considered as either a sum of payments and savings or as a value of goods and services produced. A third approach considers national income as the sum of consumption and investment. People receive incomes for producing goods, and use these incomes to satisfy their wants, by purchasing food, clothing, automobiles, education and the like. If to this consumption is added the unconsumed portion of current output—that is 'investment'—the national income is obtained.

The goods and services included in national income are generally those that pass through the market. Of the non-market elements, account is taken of the value of home-produced food consumed by farm families, since this is undeniably a form of income to the farmer. Estimated net rentals on owner-occupied houses are included since the occupants receive a real income in the form of shelter. On the other hand, the value of services rendered by housewives is excluded. Income from illegal pursuits such as robbery and gambling are disregarded. Capital gains or losses, charity, gifts, relief payments, and other forms of income which do not result from current production are excluded either explicitly or implicitly through the operation of the 'savings' account.

The estimates of national income classified by industrial sources show that primary production, including processing activities closely associated with forestry, fisheries and mining, accounted for 25.3 p.c. of the income originating during the period from 1919 to 1940. Secondary production, including construction, manufactures, *n.e.s.*, and custom and repair, was in second place with 19.9 p.c. Trade occupied third position, accounting for 12 p.c., while government, service, finance and transportation followed in the order named.

Approaching national income from the standpoint of payments received, it is found that remuneration of employees in the form of salaries and wages is the chief income payment and during the period 1919-40 this amounted to nearly 58 p.c. of the total, or to 61 p.c. if living allowances of so-called "unpaid labour" and other labour income are added. The withdrawals of working proprietors, mainly farmers, retailers and professionals, constituted nearly one-quarter of the total for the twenty-two years. Investment income, embracing dividends, interest, rents, etc., accounted for 14.6 p.c. of total income payments.

Survey of Production

In this chapter only those industries generally considered to have a *direct* connection with production are considered, the coverage being limited to agriculture, fishing, mining, forestry, trapping, power production, manufactures, construction, and custom and repair. However, production in the economic sense includes much more than the contribution of these industries. Transportation, trade, banking and numerous other services also contribute to the nation's economy and should be taken into account when attempting a complete survey of Canada's productive capacity.

Net production is defined as the value left in producers' hands after the elimination of the cost of materials, fuel and purchased electricity and supplies

Grain Binder Cutting Wheat on a Western Farm.



Courtesy, Massey-Harris Co. Ltd.

consumed in the process of production. Net production is, therefore, a much better criterion of the value of an industry to the community in which it operates than is gross production.

The net output of the nine main branches of production rose 33 p.c., or \$1,500 million, over the preceding year. Such production was nearly double that of 1939 when the level was not greatly affected by war demand. The expansion of the manufacturing industries was the most important factor in the three-year period since general production was, of course, directed mainly to munitions of war.

A further advance in the past two years is indicated by the trend of production and prices. The index of the physical volume of business recorded a gain of nearly 17 p.c. in 1943 over the preceding year. An increase of 4.5 p.c. was shown in the index of wholesale prices. The further advances in the averages of the business and price indexes for the first eight months of 1944 over the same period of the preceding year, amounting to 3.1 p.c. and 3.7 p.c., respectively, suggest that the upward trend in the net value of production was continued in the year recently ended. The index of employment was also slightly higher in the first eight months of 1944 than in the same period of the preceding year.

Net production in agriculture during 1942, constituting nearly 58 p.c. of the aggregate for the six branches of the primary group, rose nearly 78 p.c. over 1941. The bumper grain crop and the heavy output of animal products to meet increased overseas demand were the main elements in this expansion. Mining, second in importance among the primary industries, increased 3 p.c. Activities, especially in gold mining, were retarded by the scarcity of manpower and the difficulty of obtaining mining machinery and equipment. The net output of the electric power and forestry industries showed increases of 9 p.c. and 2 p.c., respectively. An increase of 25 p.c. was shown in the output of the fisheries industry, while the gain from the activities of trappers was no less than 57 p.c. New historical records were established during 1942 in both industries.

Two of the three groups engaged in secondary production showed outstanding expansion in 1942 over the preceding year. The aggregate net production of manufacturers, construction, and custom and repair rose about one-quarter in this comparison. Aside from agriculture, manufacturing was the main factor in Canadian

production during 1942, showing a gain of 27 p.c. over 1941. The totals for manufacturing include some industrial enterprises also listed under "primary industries" but, to avoid duplication, the value of output in the latter is deducted in the grand total of production for Canada. The value of output in the construction industry increased by 15.3 p.c., and custom and repair posted an advance of 3 p.c. above the preceding year.

The size of the working force, without distinction as to status, is an excellent measure of the relative importance of the various industries in the economic life of the Dominion. Agriculture stood head and shoulders above any other industry, in regard to the number engaged, until the first year of the War. Manufactures was second in importance in this respect, but the gainfully occupied was only somewhat more than half the number engaged in agriculture. However, the tremendous expansion in the working force employed in manufacturing industries during the war years, which amounted to about 75 p.c. between 1939 and 1942, and the decrease of 9 p.c. in the number engaged in agriculture during the same period, has brought manufactures to the leading position. The commodity-producing industries engaged 55 p.c. of the manpower in 1942, while the commodity-handling and -facilitating divisions found employment for 17.8 p.c. and 27.2 p.c., respectively.

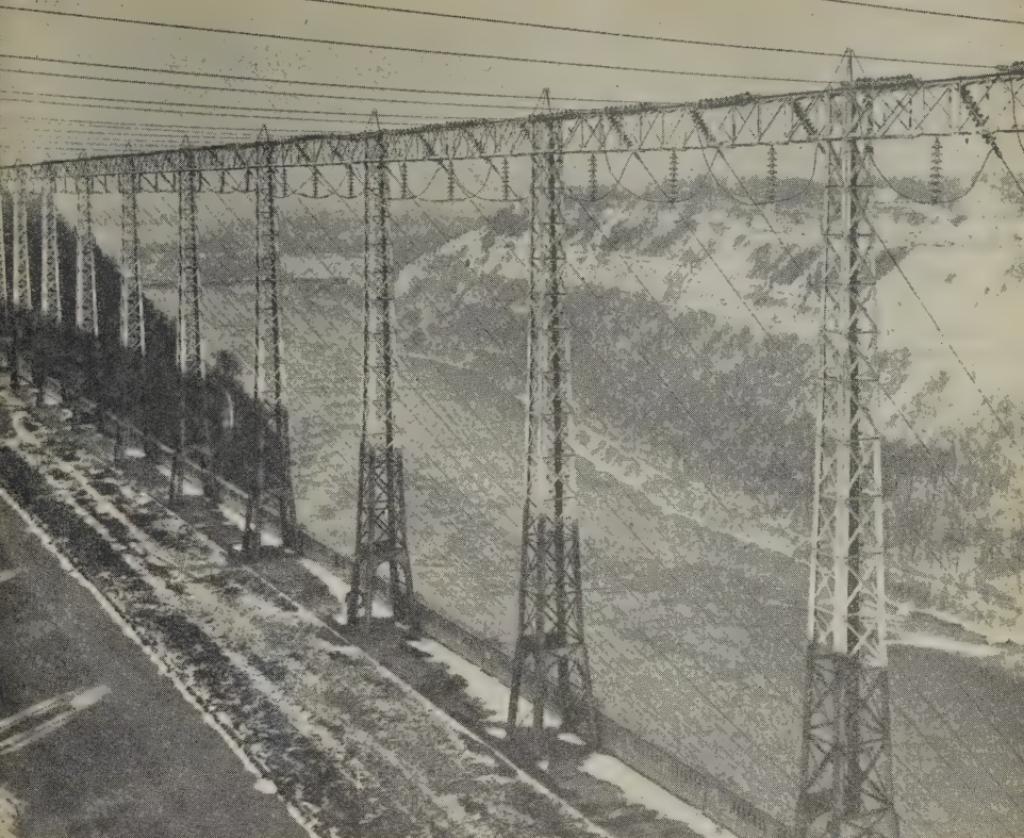
Value of Production in Canada, by Industries, 1941 and 1942

Industry	1941		1942	
	Gross		Net	
	\$	\$	\$	\$
Agriculture.....	1,431,770,000	951,025,000	2,136,529,000	1,691,540,000
Forestry.....	711,004,556	421,419,139	763,988,245	429,079,260
Fisheries.....	82,522,675	51,769,638	103,118,177	64,821,702
Trapping.....	15,138,040	15,138,040	23,801,213	23,801,213
Mining.....	866,293,332	497,904,632	946,021,397	514,109,951
Electric power.....	186,080,354	183,146,426	203,835,365	200,345,240
Totals, Primary Production.....	3,292,808,957	2,120,402,875	4,177,293,397	2,923,697,366
Construction.....	639,750,624	269,561,885	635,649,570	310,917,190
Custom and repair.....	199,377,000	135,287,000	205,364,000	139,349,000
Manufactures.....	6,076,308,124	2,605,119,788	7,553,794,972	3,309,973,758
Totals, Secondary Production.....	6,915,435,748	3,009,968,673	8,394,808,542	3,760,239,948
Grand Totals¹.....	9,250,795,729	4,720,073,033	11,501,593,442	6,258,464,613

¹ Excludes duplication in "Manufactures" of items included under primary production.

The relative importance of the nine provinces to Canadian production remained substantially the same as in 1941. The position of Ontario and Quebec as the principal producers was not quite so predominant as in the preceding year, with Ontario's share in the Dominion's total output receding to 40.4 p.c. as compared with 44.2 p.c. in 1941. Quebec's contribution also declined somewhat, standing at 26.6 p.c.
British Columbia retained third position with 8 p.c.

A definite percentage improvement is evident in the Prairie Provinces especially Saskatchewan and Alberta. Saskatchewan, as the fourth ranking contributor, accounted for 7.9 p.c. of the total production and Alberta 7.0 p.c.



Transmission Towers at the Queenston Power Plant, Niagara Falls, Ont.—Due to the expansion of power resources and the co-operation of all power-users in observing the necessary restrictions of war-time control, Canada passed through the peak of all power demands at the turn of the year 1943-44 without serious shortage or inconvenience.

Courtesy, National Film Board

Small relative change was noted in the contribution of the Maritime Provinces. Two provinces showed slightly lower proportions with 2.8 p.c. for Nova Scotia and 2.0 p.c. for New Brunswick, while the share of Prince Edward Island increased slightly to 0.3 p.c.

Value of Production in Canada, by Provinces, 1941 and 1942

Province	1941		1942	
	Gross	Net	Gross	Net
	\$	\$	\$	\$
Prince Edward Island.....	28,010,446	13,200,776	36,611,034	21,404,746
Nova Scotia.....	265,262,337	136,855,941	317,004,819	175,667,076
New Brunswick.....	205,698,123	103,968,110	228,822,689	128,162,880
Quebec.....	2,596,572,315	1,279,353,703	3,198,620,365	1,665,325,431
Ontario.....	4,245,649,428	2,087,958,441	5,005,454,849	2,529,183,058
Manitoba.....	414,912,902	205,348,561	515,521,633	295,240,285
Saskatchewan.....	355,149,603	228,318,037	666,522,078	494,011,113
Alberta.....	443,175,858	276,898,177	658,072,397	439,812,709
British Columbia.....	696,364,717	388,171,287	874,963,578	509,657,315
Canada.....	9,250,795,729	4,720,073,033	11,501,593,442	6,258,464,613

¹ Includes Yukon and the Northwest Territories.

CHAPTER III

Agriculture

Review of Canadian Agriculture in the Fifth Year of War

In 1944 Canadian agriculture added a fifth year to its imposing record of war-time food production. Although the 1943 over-all output from farms was generally considered to be nearing the maximum possible with limited supplies of manpower and machinery, some lines of production soared to even higher levels in 1944. Larger crops of grain were harvested and slaughterings of live stock, particularly hogs, established new records. As a result, most of the production objectives set up for Canadian farmers at the Dominion-Provincial Conference in December, 1943, have been attained or exceeded.

In meeting war-time demands for farm products, Canadian farmers have received various types of government assistance. Such bodies as the Agricultural Supplies Board, the Agricultural Food Board, the Meat Board, the Dairy Products Board, and the Special Products Board were already in operation prior to 1944 and have continued to function (see Introduction). In the international food field, the Combined Food Board and the Joint Agricultural Committee of Canada and the United States play an important role. One of the most important developments in Canadian Agriculture in 1944 was the establishment of an Agricultural Prices Support Board. This body will administer an Act for the support of the prices of agricultural products during the transition from war to peace, and will allow farmers to adjust their production programs to a peace-time basis without the fear of rapidly collapsing markets. Until the War does end, large export contracts at firm prices, various forms of governmental price supports, subsidies and bonuses provide assurance of continuing stable farm income.

The great improvement in the meat supply position commencing in the autumn and winter of 1943-44 enabled the Government to suspend meat rationing in Canada, effective Mar. 1, 1944, thus bringing to an end restrictions that had been imposed commencing May 27, 1943. The supply position with respect to butter, however, was not sufficiently improved to allow this commodity to be withdrawn from rationing.

In 1944, manpower continued to present one of the most difficult problems in agriculture and the allied food-processing industries. Although the over-all farm labour problem has been acute, the National Selective Service program to obtain seasonal labour for farms, particularly at harvest time, has been exceedingly useful. Farmers have also benefited from an improvement in the supply situation with respect to farm machinery, fertilizers and certain other types of essential supplies. Unable to obtain additional hired help, farmers have turned to machinery to fill the gap, and to further increase output per man.

During war-time, Canada has greatly expanded production and exports of such perishable commodities as meat and eggs. As a result there has developed a shortage of cold-storage space. A Cold Storage Administrator was appointed during the summer of 1944 to assist the Cold Storage Sub-Committee of the Agricultural Supplies Board in meeting this problem. The most economical use of existing space and the securing of sufficient handling labour have been the main methods employed to overcome this difficulty.



Cattle Round-up in the Ranching Country of the Western Foothills.

Courtesy, National Film Board

During the first four years of war, successive yearly bacon agreements were entered into between the Canadian and United Kingdom Governments. In 1943 the contract was for a record 675,000,000 lb. and was filled. A new agreement was then consummated for a two-year period, calling for minimum total shipments of 900,000,-000 lb. in 1944 and 1945. The tentative goal of 500,000,000 lb. for delivery in 1944 will be far exceeded, as purchases reached this figure by Aug. 1, 1944. Slaughterings of hogs reached unprecedented levels during the first half of 1944, and inspected slaughterings for 1944 as a whole are expected to total 9,000,000 head, which is more than double any pre-war year. With prices of hogs at comparatively high levels, farm cash income from hogs in 1944 established a new record. In January, 1944, payment of new Dominion Government premiums of \$3 on Grade A carcasses and \$2 on Grade B 1 carcasses commenced.

In June, 1943, the Meat Board replaced the former Bacon Board. The new Board was empowered to export other meats, as well as pork products. A beef agreement with the United Kingdom running to the end of 1945 was arranged, and the first shipments commenced in November and December, 1943. Rate of delivery rapidly increased during the first half of 1944 and by Sept. 15, 1944, export purchases totalled about 70,000,000 lb., or the equivalent of 160,000 cattle. For 1944 it is estimated that beef shipments will total at least 100,000,000 lb. A small quantity of lamb was exported early in 1944, and towards the end of September, 1944, restrictions were removed on the export of live sheep and lambs to the United States. Other products exported by the Meat Board in substantial quantities in 1944 included canned pork, lard, frozen offals and hog casings.

Total milk production in 1944, despite drought conditions in Eastern Canada during the late summer, was almost equal to the record production in 1943. Fluid

milk sales showed an increase in all parts of Canada over 1943 sales, while production of creamery butter declined approximately 5 p.c. in 1944 below 1943 levels. Cheddar cheese output, however, increased somewhat over the previous years. The contract with the United Kingdom which ends on Mar. 31, 1945, calls for shipments of 125,000,000 lb. The domestic demand for creamery butter increased, and with the decline of production it became necessary from time to time during the year to postpone the valid dates of certain ration coupons which had the effect of reducing the consumption.

The Agricultural Food Board continued to direct the payment of producer subsidies for creamery butter, fluid milk, cheese and concentrated milk products during 1944-45. At the same time, the stabilization program initiated in 1943, and which was designed to control diversion of milk, was continued in 1944, and prospects for 1945 indicate that these controls will be maintained. The Wartime Prices and Trade Board issued several directives during 1944 with a view to reducing the amount of butterfat sold on the fluid milk market in the form of cream and special milks. Prospects for production during 1945 appear favourable with producers in most areas making every effort to maintain their milking herds.

Poultry production again forged ahead in 1944. Whereas domestic consumption in 1943 had increased more rapidly than production and exports had declined slightly, in 1944 deliveries of eggs to the Special Products Board were made at an unprecedented rate. In the period from Jan. 1 to July 31, 1944, total inspections of shell eggs for delivery to the Board were double those of any previous year. As in the previous two years, eggs were broken and dried, and the product exported overseas in the form of egg powder. Along with increased output of eggs, production of dressed poultry also reached high levels, with considerable quantities released for export.

The most noticeable trend in crop production in Canada in 1944 was the increased acreage sown to wheat in the Prairie Provinces. The 1944 western wheat crop, estimated at slightly over 23,000,000 acres, was 6,400,000 acres greater than in 1943, and was accompanied by a smaller acreage sown to barley, oats and flaxseed. During the 1943-44 crop year ended July 31, Canadian surplus stocks of wheat and coarse grains were substantially reduced, although still remaining at more than pre-war levels. Increased export demand and larger domestic requirements for live-stock feeding were primary factors in the rapid rate of disappearance. Up to the fifth year of war, the accent in agricultural production tended to fall on live stock and live-stock products rather than on cereal grains. In the light of this fact, and of the very large stocks of wheat already in store and on farms in Canada, acreage payments were made during the years 1941, 1942 and 1943 to farmers in the Prairie Provinces who diverted land from wheat-growing into summerfallow, or into coarse grains or grass required for live-stock feeding, or into flaxseed needed for oil. As a result, wheat acreage declined to the comparatively low point of 16,800,000 acres by 1943. In 1944, however, following improved export demand and better prices for wheat, a definite tendency was evidenced to resume the larger production of wheat in Western Canada, mainly at the expense of coarse grains and flaxseed, and to cut down somewhat on the rather intensive hog-production program in certain parts of the West. The initial price for wheat, it may be added, was raised from 90 cents per bu. for No. 1 Northern, in store at Fort William, to \$1.25 per bu. in the autumn of 1943.

Oilseed crop production in Canada in 1944 showed a substantial reduction. Although acreage for soybeans, sunflowers and rape seed was maintained or

increased, the flaxseed area was reduced to about 1,300,000 acres, compared with 2,900,000 in 1943. This will still allow domestic crushers to operate at capacity, but will substantially reduce oilseed exports. The over-all position with respect to fats has improved somewhat with heavier production of lard and edible tallow, and during 1944 Canada exported some 30,000,000 lb. of lard to the United Kingdom and Russia.

In the crop year 1943-44 a record volume of western wheat and feed grains was moved into the eastern provinces and British Columbia under the Dominion Freight Assistance Policy. The poor crop harvested in many sections of Eastern Canada in 1943 and the high levels of live-stock production created an emergency which would have been serious had not the large surplus grain stocks existed in grain elevators and on western farms. In 1944 the eastern harvest was much improved over the previous year, and it is expected that requirements for western grain will be considerably reduced in 1944-45. Despite reduced carryovers of grain in Canada, the over-all feed position for the 1944-45 crop year appears to be somewhat brighter than in 1943-44.

In keeping with war-time policy of stabilization of consumer prices for canned vegetables and jams, subsidies have been authorized for producers of certain raw fruits and vegetables going into such products. In 1942 the Wartime Prices and Trade Board arranged subsidies to growers of tomatoes, corn, peas, and green and wax beans for processing at the following respective rates per ton: \$1, \$2, \$7.50 and \$5. The same four vegetables continued to be subsidized under arrangements of the Department of Agriculture in 1943 and 1944. The rates of subsidy were increased in 1943 and the following rates were paid: corn \$4, peas \$10, and beans \$7.50 per ton in both 1943 and 1944; tomatoes \$3 per ton in 1943 and \$6 in 1944. The current subsidies represent approximately the following proportions of the gross return to the grower: tomatoes 30 p.c., corn 27 p.c., peas 22 p.c., and beans 10-12 p.c.

Subsidies on berries for jam were instituted in 1943 at 3 cents a pound for the main types of berries, except that strawberries processed in British Columbia were supported at 6 cents a pound. The policy was renewed in 1944 at the same rates but on a slightly broader basis in that the pure grade of jam was not barred from subsidy benefit as it had been in 1943. In 1943 and 1944 the Wartime Prices and Trade Board paid considerable subsidies on such tree fruits as peaches, pears and plums for processing. This policy was necessitated by the fact that ceiling prices for fresh sale of these fruits came only in 1943 at levels considerably above those of the 1941 base period, although ceiling prices of canned fruits and jams remained at the levels of that year.

Onions Grown for Seed in the Okanagan Valley, B.C.

Courtesy, Family Herald and Weekly Star



Another claimant for surplus Canadian food production has appeared in the form of the United Nations Relief and Rehabilitation Administration. While Canada's main contribution probably will be wheat, other food products such as canned meat, lard and concentrated milk products may also be supplied.

Canadian farm cash income, which has improved steadily during the war years as a result of the combination of higher prices and greater output, recorded a further advance in 1944. For the first six months, farm cash income was 30 p.c. higher than in the same period of 1943, and it is expected that the total for twelve months will be well above the high level reached in 1943.

Agricultural Statistics

Net Farm Income

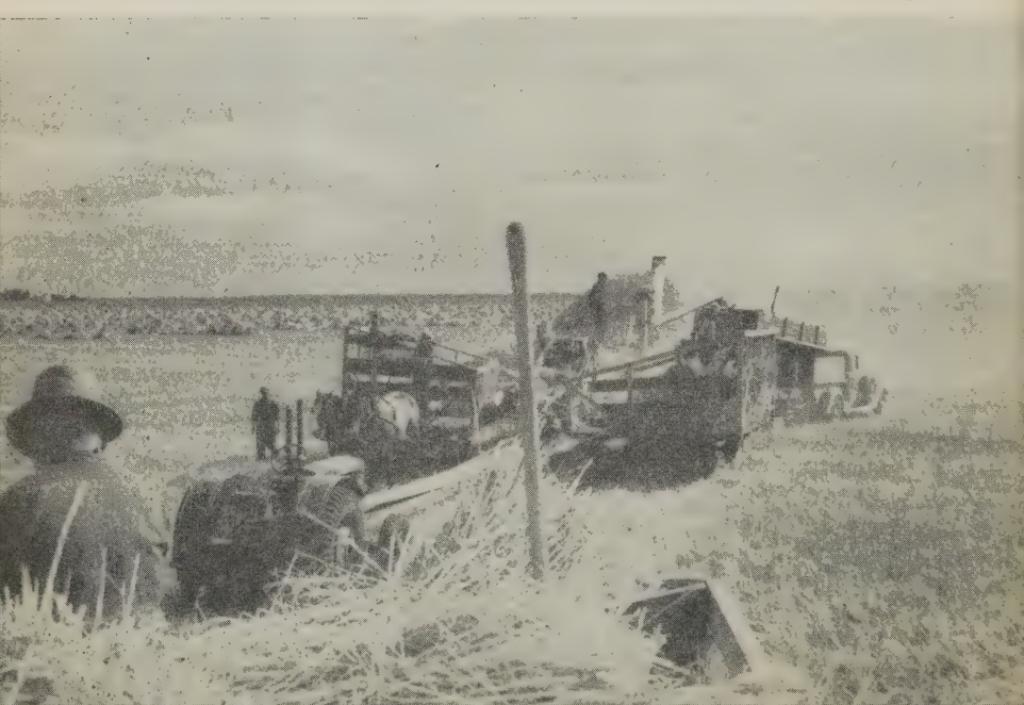
Net farm income (gross income including Government payments less operating expenses and depreciation charges) amounted to \$974,000,000 in 1943. This was \$180,000,000 below the high of \$1,154,000,000 reached in 1942 but substantially above the 1940 estimate of \$534,000,000. Higher prices together with a pronounced expansion of live-stock production and high grain yields accounted for this remarkable increase in farm income between 1940 and 1942.

Net farm income has been defined as the net income accruing to farm operators and their families from their own farming operations. It does not include farm operators' receipts from non-farm sources.

Cash income from the sale of farm products increased consistently from 1940 to 1943, but much of the increase that occurred between 1942 and 1943 represented

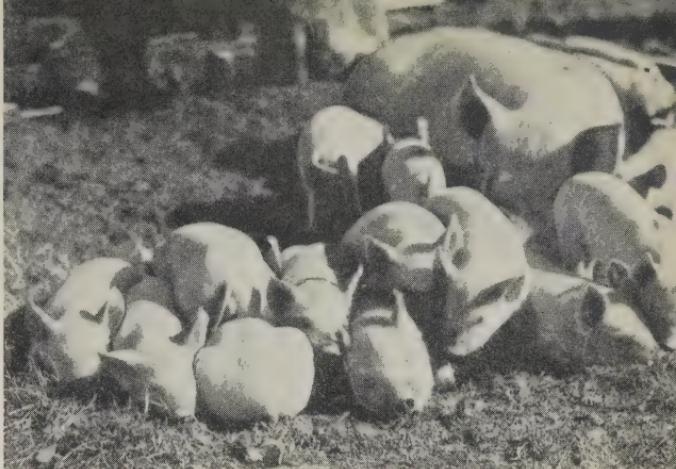
Harvest Time in the Canadian West.

Courtesy, Canadian National Railways



This Fine Litter of Pigs
Shows the Results of
Good Breeding.

Courtesy, Family Herald
and Weekly Star



receipts from sales of the 1942 crop. For the net income calculations these sales are credited back to the 1942 crop by taking into account changes in inventory of live-stock numbers and grain stocks on farms. The decline in net income in 1943 as compared with 1942 is attributable to lower per acre yields of grain in 1943.

Farm operating expenses and depreciation charges increased much less rapidly than gross income during this period. This resulted in an even higher relative increase in net income. Operating expenses and depreciation charges increased by 22 p.c. between 1940 and 1943 while net income, including Government payments, increased by 82 p.c. The items of operating expenses exhibiting the largest increases were feed, net rent, machinery repairs, fertilizer, tractor fuel and wages.

Income in kind consumed by persons on farms increased by 27 p.c. during the period. Increased consumption of meat, milk and eggs, together with rising prices for these foods, accounted for this increase.

Direct Government payments to farmers have been included in the year in which they were earned. These payments increased from \$7,800,000 in 1940 to \$76,000,000 in 1941 and then declined to \$26,000,000 in both 1942 and 1943.

In the eastern provinces net income made a steady gain between 1940 and 1943. The relative increase was highest in Prince Edward Island, but the absolute increase was greatest in Ontario, where it advanced from \$148,000,000 to \$293,000,000. Saskatchewan and Alberta attained their highest levels of net income in 1942 as a result of bumper crops; in 1943 these levels declined to \$163,000,000 and \$129,000,000, respectively, compared with \$107,000,000 and \$93,000,000 for the two provinces in 1940. In Manitoba the high income level reached in 1942 was maintained in 1943. This level of \$102,000,000 is more than twice as high as the net income of 1940.

Net Farm Income in Canada, 1940-43

Item	1940	1941	1942	1943
	\$ '000	\$ '000	\$ '000	\$ '000
Cash income.....	765,845	914,039	1,114,894	1,397,270
Income in kind.....	190,103	199,852	225,318	240,878
Value of changes in inventory	+75,140	-38,884	+389,099	-75,688
Gross income.....	1,031,088	1,075,007	1,729,311	1,562,460
Operating expenses and depreciation charges	504,501	518,808	601,203	614,700
Net income excluding direct Government payments.....	526,587	556,199	1,128,108	947,760
Government payments.....	7,814	76,323	26,205	26,334
Net income including Government payments	534,401	632,522	1,154,313	974,094

Cash Income from the Sale of Farm Products

Annual estimates of cash income from the sale of farm products represent the gross returns from all products sold off farms valued at the prices received by farmers. Subsidies and other payments made by the Dominion and Provincial Governments in recent years to encourage production have not been included in the cash receipts except where the subsidies have become part of the price to producers. Cash farm income has increased materially during the past few years and estimates for the first six months of 1944 indicate that the total for that year will show a further rise over 1943. Increased production together with higher farm prices have been responsible for the increase.

Cash Income from the Sale of Farm Products, by Provinces, 1940-43

Province	1940	1941	1942	1943
	\$ '000	\$ '000	\$ '000	\$ '000
Prince Edward Island.....	7,237	8,551	12,703	15,917
Nova Scotia.....	17,170	20,063	25,960	30,548
New Brunswick.....	15,523	19,448	27,303	34,453
Quebec.....	120,681	144,879	176,908	200,032
Ontario.....	233,415	286,487	355,107	389,853
Manitoba.....	64,978	81,648	101,220	136,145
Saskatchewan.....	150,854	161,955	195,467	311,437
Alberta.....	127,192	154,408	175,556	223,077
British Columbia.....	28,795	36,600	44,670	55,808
Totals.....	765,845	914,039	1,114,894	1,397,270

Farm Labour

The shortage of farm labour has been the most important limiting factor governing agricultural production during the war years. Many farmers' sons have entered the Armed Forces and competition from war industries has made it most difficult for farmers to secure hired help and wage rates have increased appreciably. Every effort has been made to secure seasonal assistance from school boys and girls and others who were available for only short periods. The farmers themselves and their families, however, have carried the bulk of the burden and every credit must be given to these men and women for the very important contribution they have made to the national war effort.



A Flax-Lifter.—
This machine for the lifting of dew-retted flax is a Canadian development.

Courtesy,
Department of
Agriculture

Certified Seed Potatoes at an Eastern Canadian Port Awaiting Shipment to South America.

*Courtesy,
Department of
Agriculture*



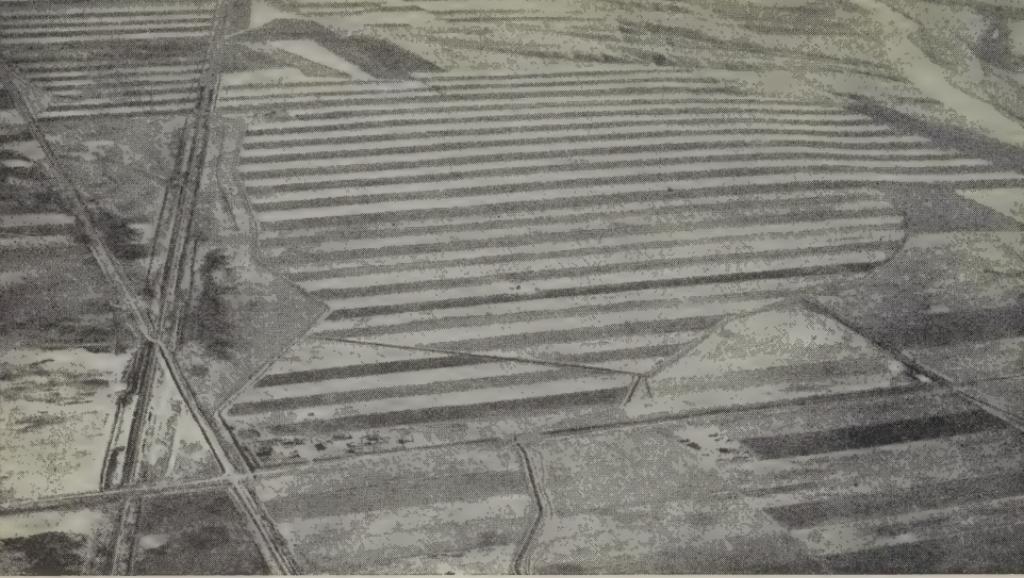
Food Consumption

Studies made of the supplies of food available for civilian consumption in Canada during the pre-war years, 1935-39 and during subsequent war years indicate that, although certain commodities such as sugar and butter have been in short supply, there has been a gradual increase in the total supplies available. The demand for food has increased sharply as a result of the higher incomes of a large percentage of the consuming public. Export demand has also increased sharply. However, the over-all increase in agricultural production has been sufficient to meet both these requirements. Details of available supplies by commodities on a per capita basis have been published in special reports of the Agricultural Branch and in the Quarterly Bulletin of Agricultural Statistics.

Trade in and Consumption of Agricultural Products

Exports of agricultural products, valued at farm prices, represented in 1942 21.6 p.c. of the total value of agricultural production. Imports in 1942 represented 3.9 p.c., and nearly 70 p.c. of production was utilized in Canada. The substantial carryover of wheat from the 1942 crop largely accounted for the disappearance not equaling 100 p.c. of production. The percentage entering into export trade has remained relatively constant since 1937 despite very substantial increases in the actual quantities and values of commodities exported, the general expansion in agricultural production having kept pace with the expanding exports. In comparison with 1941, the percentage of the 1942 production exported declined from 26.4 to 21.6 p.c. This was due mainly to the very large wheat crop harvested in the latter year. The ratio of imports to domestic production has never been high and for most commodities is of minor importance. The percentage of production utilized in Canada ranged from 69.6 p.c. to 83.2 p.c. over the period 1935 to 1942.

Imports of agricultural products into Canada are important only in the case of a few items. Imports of flaxseed, which formerly represented a large percentage of Canadian consumption, have been sharply reduced in recent years and Canada has become a net exporter of this product. Corn remains important as an import item but imports were low in 1941-42 and 1942-43. Imports of dried and split peas have been significant in certain years. Among the fruits, Canada imports large quantities



Strip Farming, Monarch District, Alberta.—Strip farming is the basis of soil drift-control and is now widely practised in Western Canada. This district around Monarch was a pioneer in this method of farming.

Courtesy, Family Herald and Weekly Star

of apricots, plums and prunes and grapes. In addition there are substantial imports of citrus fruits, bananas and pineapples which are not produced in Canada. Imports of tobacco, which were formerly large, have been reduced to a small percentage of Canadian production.

The domestic market consumes the major portion of almost all Canadian farm products. Wheat is the principal exception, but in recent years the export market has become more important for oats, barley, rye, flaxseed and hogs. For those items where imports are in excess of exports, domestic disappearance represents more than 100 p.c. of production. Taking all items as a whole the percentage which domestic disappearance represents of total agricultural production has remained steady.

Exports, Imports and Domestic Disappearance of Agricultural Products Expressed as Percentages of Production, 1935-42

Year	Exports	Imports	Domestic Disappearance ¹
	p.c.	p.c.	p.c.
1935.....	33.60	4.13	78.61
1936.....	40.97	6.32	79.30
1937.....	26.33	8.32	83.25
1938.....	22.55	4.81	74.26
1939.....	21.95	4.32	69.28
1940.....	23.26	5.48	71.75
1941.....	26.44	5.50	82.42
1942.....	21.64	3.88	69.65

¹ Domestic disappearance plus exports minus imports does not equal 100 p.c. of production because of the influence of year-to-year changes in stocks.

Field Crops

Acreage.—Canada's seeded wheat acreage in 1944 increased by 6,400,000 acres above the exceptionally low acreage of 16,800,000 acres planted to wheat in 1943. During the present war, Canada's need has been for greater production of coarse grains and oilseeds to feed her growing live-stock population and to fill the gap left by the stoppage of vegetable oil imports from the Far East. In 1943, under the economic incentives supplied by the acreage bonus of \$2 per acre on land removed from wheat and sown to coarse grains, flax or grass, together with a floor price for oats and barley, farmers shifted from wheat and seeded the smallest acreage since 1917.

Early in 1944 the picture of relative prices for grains which confronted the farmer had changed in several important respects. In the first place, the acreage premiums for acres shifted away from wheat had been discontinued. Secondly, the man filling his drill this spring was guaranteed a minimum price of \$1.25 per bu. for No. 1 Northern wheat at Fort William, as compared with a minimum price of 90 cents the preceding spring. At the same time, the floor and ceiling prices for oats and barley had not altered, although a portion of the equalization fees* on these two grains were now being paid at the time of delivery. Thus, despite a wheat goal of 17,500,000 acres which had been established because of adequate reserves and plugged storage facilities, Canada's wheat acreage bounced back to a more "normal" level.

Grain Production.—The average wheat yield of 18.7 bu. per acre obtained in 1944, while not of the record proportions of the 25.8 bu. average yield of 1942, is still well above the 1921-40 average of 14.9 bu. per acre. This good yield on an expanded acreage has given Canada a large crop of 435,535,000 bu. Some indication of the exceptionally high wheat production obtaining in this country during the war years is apparent from the fact that the present crop ranks fourth in volume among the six war-time crops harvested.

Wheat is gaining popularity as a live-stock feed as feeders become increasingly aware of the high feeding value of wheat. This practice has been encouraged by allowing a drawback of 25 cents per bu. on wheat purchased for feed and by placing a limitation upon farmers' deliveries to the Wheat Board. It is estimated that about 92,500,000 bu. were fed during the crop year 1943-44 as compared with 45,000,000 in 1939-40. In large areas of the drier parts of Western Canada, wheat will yield a higher feed return per acre than will coarse grains and, where these conditions prevail, it is sound economy to grow wheat for feed rather than oats and barley.

Conditions were exceptionally favourable for the growing of coarse grains during the summer of 1944. Oat production was up to 500,000,000 bu. from 482,000,000 in 1943, although the area planted to oats was reduced in the later year. Barley production decreased as a result of land being shifted back to wheat. The 1944 goals for oats and barley were placed at 16,400,000 and 8,500,000 acres which compare with seeded acreages of 14,300,000 and 7,300,000 acres, respectively. The acreage seeded to flaxseed in 1944 declined to 1,300,000 acres as compared with 2,900,000 in 1943.

*On Apr. 6, 1943, a policy of paying farmers an "equalization fee" on marketings of oats and barley was implemented. These payments were designed to pass back to the primary producer on a pro-rata basis the differential returns received from coarse grains exported to the higher priced United States market. These fees are collected from exporters at the time export permits are authorized. On Sept. 17, 1943, advance payments of 10 cents per bu. on oats and 15 cents per bu. on barley, at the time of delivery, were authorized.

CANADA 1945

and a goal of 2,800,000 acres for 1944. This contraction took place in the face of a price increase to \$2.75 per bu. for No. 1 C.W. flaxseed at Fort William, as compared with \$2.25 the preceding year. Farmers apparently considered that the net returns from flax were not comparable to those available from other crops.

Field Crops of Canada, 1943 and 1944

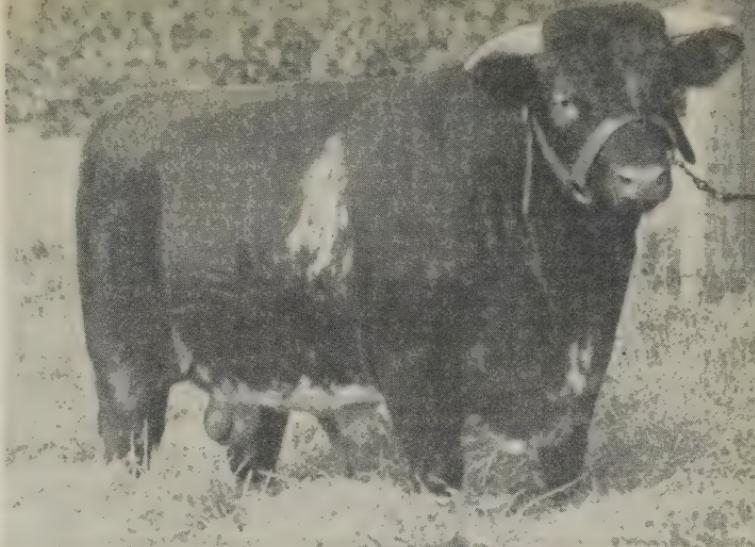
Crop	Final Estimate 1943 Crops			3rd Estimate 1944 Crops		
	Area	Production	Gross	Area	Production	Gross
			Farm Value			Value
	acres	bu.	\$	acres	bu.	\$
Fall wheat.....	601,000	13,222,000	14,412,000	668,000	20,908,000	22,790,000
Spring wheat.....	16,248,700	271,238,000	274,099,000	23,284,200	414,627,000	437,262,000
All wheat.....	16,849,700	284,460,000	288,511,000	22,616,200	435,535,000	460,052,000
Oats.....	15,406,900	482,022,000	255,045,000	14,315,000	499,643,000	263,887,000
Barley.....	8,396,800	215,562,000	141,988,000	7,290,700	194,712,000	129,054,000
Fall rye.....	351,300	4,468,000	4,255,000	417,850	5,628,000	4,774,000
Spring rye.....	224,800	2,675,000	2,600,000	230,100	2,898,000	2,423,000
All rye.....	576,100	7,143,000	6,855,000	647,950	8,526,000	7,197,000
Peas, dry.....	102,200	1,562,000	3,581,000	83,600	1,269,000	3,265,000
Beans, dry.....	85,200	1,407,000	3,280,000	99,500	1,432,000	3,762,000
Buckwheat.....	285,900	6,243,000	5,035,000	256,000	5,553,000	4,416,000
Mixed grains.....	1,463,200	35,656,000	22,611,000	1,518,100	57,431,000	34,300,000
Flaxseed.....	2,947,800	17,911,000	38,508,000	1,323,100	9,668,000	23,498,000
Corn, shelled.....	230,000	7,775,000	6,733,000	270,000	11,700,000	11,557,000
		cwt.			cwt.	
Potatoes.....	532,700	43,541,000	77,784,000	534,900	49,409,000	70,550,000
Turnips, etc.....	162,600	35,690,000	23,315,000	147,200	31,852,000	19,623,000
		tons			tons	
Hay and clover.....	9,815,600	17,238,000	190,357,000	10,119,700	15,102,000	183,640,000
Alfalfa.....	1,544,000	3,891,000	41,811,000	1,580,200	3,783,000	42,895,000
Fodder corn.....	474,800	4,097,000	17,068,000	474,000	4,398,000	17,500,000
Grain hay.....	779,500	1,259,000	7,003,000	732,500	1,325,000	7,905,000
Sugar beets.....	52,500	471,700	4,914,000	55,900	564,200	4,957,000

A Typical Farming Country Scene in Eastern Canada.

Courtesy, New Brunswick Government Information Bureau



Uppermill Royal, a Shorthorn Bull Bred at Uppermill, Tarves, Aberdeenshire, Scotland.—This bull was recently purchased for 4,000 guineas (\$18,900) by Ontario citizens interested in the improvement of live stock. He is now in service at the Ontario Agricultural College, Guelph.



Courtesy, Ontario Agricultural College

Production, Imports and Exports of Wheat for Canada, 1930-44

NOTE.—Wheat flour has been converted into bushels of wheat at the uniform average rate of $4\frac{1}{2}$ bu. to the barrel of 196 lb. of flour.

Year	Production '000 bu.	Imports of Wheat and Flour ¹		Exports of Wheat and Flour ¹ bu.
		bu.	bu.	
1930	420,672	244,221	258,693,887	
1931	321,325	216,328	207,029,555	
1932	443,061	173,014	264,304,327	
1933	281,892	413,165	194,779,875	
1934	275,849	896,674	165,751,305	
1935	281,935	291,510	254,424,775	
1936	219,218	403,396	195,223,653	
1937	180,210	6,138,819	92,957,047	
1938	360,010	1,891,177	160,034,183	
1939	520,623	444,368	192,674,368	
1940	540,190	122,036	231,206,246	
1941	314,825	29,103	225,828,434	
1942	556,684	3,022	214,700,902	
1943	293,660 ²	432,931	343,755,320	
1944	447,656 ²	³	³	

¹ Imports and exports are for the years beginning Aug. 1, 1930 to 1943.
revision.

² Subject to

³ Not available at time of going to press.

Live Stock

During the war years much emphasis has centred on the production of live stock and live-stock products. Prices of these products tended to rise earlier in the War than those for grain products, and even before definite governmental encouragement was given in the form of subsidies and bonuses the trend of production had turned upward. Live-stock numbers require periods of varying length to record increases—hog production is much more easily stepped up than that of cattle. Hogs increased rapidly and commercial marketings in 1944 will be almost three times those of 1938. The greatest increase occurred in the Prairie Provinces where ample feed supplies were available. Production in Eastern Canada has been encouraged by the policy of providing free freight for feed grains moved from Western Canada. During the first few years of increasing cattle numbers, marketings are reduced as calves and young stock are held back for breeding and feeding to heavier weights. A new

high record of 10,346,000 head of cattle was reported on farms at June 1, 1944. Sheep numbers have also been expanded considerably during the war period as a result of higher prices for both wool and mutton and lamb. Numbers of horses on farms have shown very little change throughout the war period.

Numbers of Principal Species of Live Stock on Farms in Canada, June 1, 1939-44

Year	Horses	Cattle	Hogs	Sheep
	'000	'000	'000	'000
1939.....	2,761	8,374	4,364	2,911
1940.....	2,780	8,380	6,002	2,887
1941.....	2,789	8,517	6,081	2,840
1942.....	2,816	8,945	7,125	3,197
1943.....	2,775	9,665	8,148	3,459
1944.....	2,735	10,346	7,741	3,726

Special Crops

Tobacco.—War has checked the rapid expansion in the tobacco industry, which began in 1926 and reached its peak in 1939 when a crop of 107,703,400 lb. with a farm value of \$19,443,800 was harvested. The expansion was due almost entirely to the great increase in the production of flue-cured tobacco, particularly in Ontario. Exports, mainly to the United Kingdom and largely of the flue-cured type, had been increasing during this period and, in the year 1939, amounted to 32,200,000 lb. Following the outbreak of hostilities, the United Kingdom market was virtually closed to Canadian tobacco and the situation became so acute that acreage restrictions were put into effect. Restrictions were relaxed somewhat in 1941 on account of the sharp increase in the domestic demand for unmanufactured tobacco and a slight improvement in the export situation. The full 1939 acreage allotments for flue-cured and burley tobacco were restored in 1942 when the total area was increased to 78,730 acres and a crop estimated at 89,699,400 lb. with a gross farm value of \$21,538,100 was harvested. Although all restrictions on acreage were removed in 1943, production dropped to 62,844,700 lb. from 71,600 acres, owing to unfavourable weather and a shortage of farm labour.

The Dominion-Provincial Conference to consider objectives for Canadian agriculture in 1944, set the area required for tobacco planting at 86,700 acres. The growers responded with an estimated total of 89,060 acres, of which 73,830 were planted to the flue-cured type. The estimated production of flue-cured tobacco is 83,323,500 lb., with other types making up a total of 102,104,750 lb.

There has been a decided expansion in the amount of domestic leaf taken for manufacture during the war years. The most substantial rise has been in the flue-cured type where withdrawals for manufacture increased from 30,478,655 lb. in 1939 to 47,205,299 lb. in 1942 and 52,579,227 lb. in 1943. The increase is due to the greatly increased consumption of cigarettes in Canada, supplemented by the tremendous volume of ships' stores and exports to the Armed Forces abroad.

Sugar Beets.—Despite the war-time demands for sugar, it has not been possible to expand the acreage and production of sugar beets in Canada. This crop has a high labour requirement per acre and, as a consequence, has been adversely affected



Shorthorn Cows in an Ontario Pasture.—Beef production continues to hold an important place in the agricultural economy of every province in Canada.

Courtesy, Canadian Shorthorn Association

by the acute shortage of farm labour. The total acreage in 1944 for the four producing provinces, Quebec, Ontario, Manitoba and Alberta, was 58,350 acres, an increase of 5,850 acres over the low acreage of 1943 but was still considerably below the 82,270 acres planted in 1940. Yields per acre were higher in 1944 in all provinces and the tonnage produced increased from 473,000 to 608,000. The output of refined beetroot sugar from the 1943 crop amounted to 129,268,010 lb. In 1944 a new sugar-beet refinery was opened at St. Hilaire, Que.

Maple Products.—Weather conditions in general were more favourable to an increased flow of sap in 1944 than during the 1943 season and total production expressed as syrup amounted to 3,090,400 gal., an increase of 34 p.c. over the 1943 crop of 2,299,800 gal. There was a continuation of the trend to increase the amount of syrup at the expense of the sugar crop which has been apparent since the outbreak of war. In the five-year period, 1935-39, the maple syrup crop averaged approximately 80 p.c. of the total output expressed as syrup. In 1940 the percentage of syrup increased to 89 p.c. of the total and remained at this level until the 1944 season, when the proportion of syrup rose to a new high of 93 p.c.

As was the case in 1943, a considerable volume of syrup passed directly from the producer to the consumer. In Quebec, however, with the larger crop, the maple-syrup processors were able to obtain more adequate supplies than in 1943.

Honey.—Production of honey in 1943 estimated at 39,492,100 lb. was the heaviest on record and exceeded the ten-year, 1932-43, average of 33,462,000 lb. by 18 p.c. The average production per colony was 88 lb. or 22 lb. greater than it was in 1942. The number of beekeepers increased sharply from 28,430 in 1942 to 34,250 in 1943,

although the number of producing colonies did not increase proportionately. Beeswax production at 592,400 lb. also showed a substantial increase in 1943 over the 420,700 lb. produced in 1942. The gross value of the 1943 crop, including honey and beeswax, was estimated at \$6,371,200 or 58.1 p.c. over the value of the 1942 crop estimated at \$4,029,000.

Honey production in 1944 was somewhat disappointing after the very favourable prospects early in the season. According to a preliminary estimate of the crop, production will be 36,215,800 lb. or 8 p.c. smaller than the very large crop of 39,492,100 lb. produced in 1943. With the exception of Ontario, there was an increase in the number of producing colonies in all provinces, but this was not sufficient to offset the poorer average yields per colony. Light honey in 1944 made up 91 p.c. of the total crop, while in 1943 only 87 p.c. of the crop graded light.

Fibre Flax.—Under the stimulus of the war-time demands for this commodity, there has been considerable expansion in acreage and production over the past four years during which time, through action of the Agricultural Supplies Board, the whole industry has been put on a mechanized basis. Field and mill processing machinery is now manufactured in Canada, and 39 mills in Ontario and Quebec are equipped to process retted flax straw into long fibre and tow. Products of these mills are finding a ready market in Great Britain and the United States where the need for fibre and tow is urgent owing to the fact that the War has closed several sources of this strategic raw material.

The area planted to this crop increased from 10,536 acres in 1939 to 47,070 acres in 1942, but declined to 35,297 acres in 1943. The value of flax products, which include flax fibre, seed and tow, increased from \$1,249,000 in 1939 to \$4,687,000 in 1942 and declined to \$3,047,128 in 1943.

Hops.—Hop production in Canada is confined to the provinces of British Columbia, Ontario and Quebec. British Columbia production is the most important; in that province in 1943, 1,500 acres were grown, producing a crop of 1,500,000 lb. with a value of slightly over \$1,000,000. In the same year 335 acres and 160 acres were grown in Ontario and Quebec, respectively.

Oil-Bearing Crops.—Flax is the principal oil-seed crop produced in Canada but production of soybean, sunflower seed and rapeseed has been stressed in recent years in order to meet deficiencies formerly covered by importations from abroad and not now obtainable in sufficient volume.

Production of *flaxseed* was at its peak in Canada just prior to the First Great War when the West was being opened up and flax made an excellent crop for new breaking. Over 2,000,000 acres were seeded to flax in 1912, but in 1938 only 210,000 acres were planted to this crop. The first real increase came in 1941 when close to 1,000,000 acres were seeded and in 1942 a further increase of 500,000 acres took place. A new high was established in 1943 when 2,948,000 acres went into flaxseed. In 1944, however, the acreage declined sharply, 1,323,100 acres being planted. First estimates of yield per acre were somewhat higher than those secured in 1943 and a crop of approximately 10,000,000 bu. is indicated.

Crushing capacity for flax and other oil-seed crops has been steadily increasing during the past three years. The bulk of this capacity is located in Eastern Canada, but there are important sections of the industry in Manitoba, Alberta and British



Harvesting a Sugar-Beet Seed Crop in British Columbia.

Courtesy, Family Herald and Weekly Star

Columbia. The commercial disposition of the western Canadian flaxseed crop during the crop year 1942-43 covered almost 9,500,000 bu. distributed as follows: domestic crushers and others, 4,236,572 bu.; exported, 5,201,933 bu.; total, 9,438,505 bu.

Most of the linseed oil produced from flaxseed goes into the paint, linoleum and kindred trades including printers' ink, etc., but only limited amounts have been used for the manufacture of edible oils. It is believed that at the present time the use of linseed oil for edible oils is unlikely.

Soybean production in Canada is not by any means new, but it is only since the War began that acreage has been expanded sufficiently to make possible a commercial crop of importance. Production has been centred chiefly in southern Ontario.

The crop was smaller during 1943-44 than it was in 1942-43 despite an increase in acreage seeded in 1943. Preliminary estimates of acreage seeded in 1943 showed a total area of 50,400 acres devoted to this crop, 47,000 acres being located in Ontario. The total quantity of soybean inspected by the Board of Grain Commissioners in the eastern division between Aug. 1, 1943, and Feb. 7, 1944, was 89,795 bu. Additional quantities not included in the inspection returns brought the total receipts for the crop year up to approximately 102,000 bu. Only one car was inspected in the western division; this was from Manitoba where the production of soybean was estimated at 20,000 bu. from 2,500 acres.

The largest share of the deliveries appears to have gone to commercial interests engaged in the manufacture of soya flour and other soya products, including salted soya beans which are substituting for salted peanuts. Statistics covering the 1942 soybean crop in Ontario show that a total of approximately 370,000 bu. of beans reached commercial channels and about 320,000 bu. of this went to crushers.

As in the case of soybean, the commercial marketings of *sunflower seed* do not reflect the estimated production in 1943. This crop was produced in commercial quantities in Manitoba and Saskatchewan in 1943 with approximately 14,000 acres

planted in these two provinces; a small acreage was planted also in Alberta. A preliminary estimate of production indicated a total crop of 17,900,000 lb. In face of this estimated output, less than 4,000,000 lb. of sunflower seed have been marketed by producers in the three Prairie Provinces. The Canadian Wheat Board was authorized to purchase the crop and to pay a price of 5 cents per lb. at shipping points.

The acreage seeded to *rapeseed* in Canada in 1943 was 4,051 acres and most of this was located in Manitoba and Saskatchewan. The early estimates of yield in Manitoba were very high but have since been reduced and the total crop is now placed at 2,822,900 lb. The marketings by farmers have totalled less than 600,000 lb. Purchases have been made by the Canadian Wheat Board at a fixed price of 6 cents per lb. for rapeseed in reasonably clean condition with a moisture content determined by the Board, and delivered f.o.b. at shipping points named by the Board.

Forage Seed Crops.—The preliminary estimate of hay and pasture seeds for the 1944 season sets the crop at 50,887,000 lb. This is some 2·1 p.c. below the 1943 level of production when the crop was estimated at 51,982,000 lb. The value of the 1943 crop amounted to \$6,888,300 as compared with the 1942 crop valuation of \$3,505,900. No exports of alsike, red clover, alfalfa and mixtures of alsike and white clover seed may now be made direct by Canadian shippers. Such shipments must be made through the Seed Export Office established in 1943 at Lindsay, Ont. The profits accruing from the sale of this seed is distributed to the growers on the basis of participation certificates issued at the time of delivery. No such strict control applies to the other hay and pasture seeds. Exporters, however, must obtain export permits on all such shipments from the Seed Controller's Office. These permits are only issued when the quantities available are in excess of domestic requirements.

Dairying

During the past two years the dairy industry of Canada has successfully met the challenge imposed by war-time conditions in producing increased quantities of dairy products for use at home and abroad. Despite acute labour shortages, the production of milk on farms has been maintained at a high level, and while 1942-43 exports of cheese and concentrated milk products were considerably above those of the pre-war period, domestic supplies of fluid milk, butter and other products far surpassed the quantities provided for home consumption in previous years.

Since the commencement of the War, the Government of Canada has given tangible encouragement to dairying as a part of its policy to increase food supplies. The payment of transportation charges on feed grain moved from Western Canada to the eastern provinces has been of considerable assistance; while the payment of bonuses and subsidies to farmers and manufacturers enhanced the values of dairy products sold off farms and has established a price structure comparable to that of the early 'twenties.

Milk Production.—In 1943 farmers produced 17,517,000,000 lb. of milk, which represented an increase of nearly 29,000,000 lb. over 1942 and 1,370,000,000 lb. over 1939. Up to the end of August, 1944, milk production had increased nearly 60,000,000 lb. over the January-August production of 1943. On the basis of information at present available (October), the 1944 estimate has been placed at 17,575,000,000 lb.



Ayrshires in Pasture in Ontario.—The Ayrshire is a good milch cow and is a popular dairy breed in Canada.

Department of Agriculture

Fluid milk sales, which include cream on a milk basis, have been moving up to higher levels since the beginning of the War. The 1943 estimate, 3,706,513,000 lb., represented an increase of 9.4 p.c. over 1942. The 1944 estimate is 3,800,000,000 lb.

Fluid milk, which has been subsidized at different times since late December, 1941, is now (the beginning of 1945) subject to a producer subsidy of 55 cents per hundred in a number of markets during the period October to April and 35 cents from May to September. There is also a consumer subsidy of 2 cents per quart. Commencing Sept. 1, 1944, monthly cream sales were limited to a quota on the basis of sales made by distributors in the month of June. Cheese milk and milk for concentrated milk products (including that used for skim milk powder) is subsidized at 30 cents a hundred and the butter-fat subsidy on cream used in creamery butter manufacture continues at 10 cents per lb. of butterfat.

Butter Production.—The production of creamery butter in 1943 reached an all-time high of 312,309,928 lb., an increase of nearly 28,000,000 lb. over 1942. This, of course, was a direct result of the subsidized price arrangement which gave farmers an average of 43.2 cents per lb. butterfat as compared with 37.4 cents in 1942. During the first nine months of 1944 production fell 5.5 p.c. as compared with the same period of 1943. On the basis of this decline, the 1944 production has been estimated at 295,000,000 lb., representing a reduction of 17,000,000 lb. from the 1942 figure.

While the butter-fat subsidy tended to increase the creamery output, it had the opposite effect on dairy butter, which was not subsidized. In 1943 the dairy make fell to approximately 55,000,000 lb., 23,000,000 lb. below 1942. However, in

1944 the situation appears to have become a little more stabilized, the reduction up to the end of August being less than 2 p.c. The total for the year is expected to drop to approximately 54,000,000 lb. For creamery butter, the supply position at Oct. 1, 1944, was much weaker than a year previously. However, due to a sizeable export movement of butter to the United Kingdom in October, 1943, this difference in stock holdings does not represent the actual position, although it is apparent that supplies for the winter of 1944-45 are still considerably below those of a year ago.

Cheese Production.—Cheese has been a subsidized product since 1941. Under the price arrangement of Oct. 1, 1943, which is still applicable, the basic price of No. 1 cheese was placed at 20 cents f.o.b. factory. The quality bonus paid by the Dominion Government gave producers an average of about 1½ cents per lb. over and above the basic price, and in Ontario, where the Government continued to pay a bonus of 2 cents per lb. on all cheese manufactured, the total price was approximately 23½ cents per lb. at the factory. The Quebec Government paid a similar bonus from July 1, 1941, to Dec. 1, 1942, and again from July 1, 1943, to Nov. 1, 1944.

The subsidy paid to cheese manufacturers had a marked effect on production during 1944. During the first eight months of the year, the cheddar cheese make increased nearly 13 p.c.; and even with a slight decline in September, the output for the nine-month period was 10 p.c. above that of the same period a year ago. The estimate for 1944, provisionally placed at 175,000,000 lb., is, with the exception of 1942, the highest since 1925. Factory cheese made from whole milk (other than cheddar) showed a slight increase from 1942, the estimated output being 1,722,647 lb. as against 1,216,142 lb. in 1942. Farm-made cheese has been reduced somewhat in recent years and in 1943 only 760,500 lb. were produced; the 1944 make is estimated at 700,000 lb.

Income.—During the past few years, farmers have increased substantially their income from the sale of dairy products. In 1930 it amounted to \$105,600,000 or 16.85 p.c. of the total farm income; by 1942 this figure had risen to approximately \$227,161,000, representing 20.4 p.c. of the total farm income. With the increase in the subsidies paid in 1943, the sales income from dairy products advanced to \$248,900,000, but with the rise in value of other farm products, it represented only 17.8 p.c. of the total farm income. In the first six months of 1944, sales income from dairying reached \$128,237,000 as compared with \$110,263,000 in the same period of 1943.

Marketing and Consumption.—During the past ten years, more than 98 p.c. of the total make of creamery butter was consumed in Canada. This situation did not always exist. Exports of butter reached their highest point in 1925 when more than 24,000,000 lb., or 15 p.c. of the total, were shipped out of the Dominion. The following year there was a pronounced decline and since then the surplus available for export has reached a negligible quantity. During 1943 shipments were stepped up to approximately 9,500,000 lb., 7,000,000 of which went to the United Kingdom to help maintain the butter ration at the normal rate of 2 oz. a week.

Cheddar cheese, on the other hand, is one of Canada's principal export commodities. During the entire period 1933-42, exports were 67 p.c. of the total production. In 1939 Canadian cheese exports amounted to 90,000,000 lb. or 72 p.c. of the amount produced; by 1943 they had moved up to 130,000,000 lb. representing 80 p.c. of the total make. The cheese delivery contract with the United Kingdom for 1943-44 was raised to 150,000,000 lb. from 125,000,000 lb. for 1942-43, but the 1944-45 contract was reduced to the latter figure.

The domestic disappearance of butter on a per capita basis amounted to 28.55 lb. in 1943 as compared with 33.14 lb. in 1942. The demand for butter, which had shown a normal increase during the early part of 1942, increased considerably during the autumn. This movement was checked with the introduction of rationing on Dec. 16, 1942, at one-half pound per person per week. During 1943, and more particularly during 1944, the rationing was temporarily reduced by periodically setting back the validity date on certain ration coupons. These attempts to augment supplies for the following winter did not produce the saving that might have been expected because an increase in the consumption demand of people led to the redemption of a larger proportion of the available coupons. From January to August, 1944, consumption amounted to 192,000,000 lb. which was 20,000,000 lb. more than in 1943.

Canadians are not heavy consumers of cheese. Nevertheless, the per capita disappearance moved up from 3.74 lb. in 1940 to 4.07 lb. in 1942 and to 4.47 lb. in 1943. The consumption of milk during the past two years has also greatly increased, in fact to a degree that threatens to produce a shortage for other purposes. In 1943, fluid sales and milk consumed in farm homes amounted to 5,421,000,000 lb., or 31 p.c. of the total production. From January to August, 1944, the total reached 3,735,000,000 lb. as compared with 3,553,000,000 lb. in the same period of

Delivery of Milk at a Cheese Factory.—The demands for milk by cheese-makers offer to be as great in the present year if the contract is to be met as they were in 1943-44 when shipments were below contract by 22.7 p.c. The 1943-44 contract called for 150,000,000 lb. and 116,200,000 lb. were shipped to England; the 1944-45 contract calls for 125,000,000 lb.

National Film Board



the preceding year. After allowing for wastage, the estimated consumption of milk (including cream on a milk basis) represented a per capita consumption of 0.96 pint in 1943 as against 0.91 pint in 1942 and 0.86 pint in 1941.

Dairy Production of Canada, 1942 and 1943

Economic Area	Year	Milk		Milk Products			
		Total Milk Production	Fluid Sales	Butter		Cheddar Cheese	Evaporated Milk
				Creamery	Dairy		
Maritime Provinces.....	1942	'000 lb.	'000 lb.	lb.	lb.	lb.	lb.
Maritime Provinces.....	1943	1,092,549	194,025	15,165	12,900	2,936	2,094
Quebec and Ontario.....	1942	10,630,902	2,428,739	154,135	25,100	192,903	141,399
Quebec and Ontario.....	1943	10,554,311	2,624,022	168,087	15,590	153,538	140,899
Prairie Provinces..	1942	5,197,193	522,769	109,934	38,700	9,496	11,859
Prairie Provinces..	1943	5,294,662	593,355	120,356	29,828	6,336	9,646
British Columbia..	1942	567,722	242,412	5,357	1,825	880	28,119
British Columbia..	1943	574,856	269,009	4,871	1,643	718	26,371
Totals.....	1942	17,488,366	3,387,945	284,591	78,525	206,215	183,471
Totals.....	1943	17,516,918	3,706,513	312,310	55,407	162,344	178,155

Poultry and Eggs

Poultry farming has expanded considerably during the past ten years and, in response to the war-time agricultural program, an unprecedented development took place in 1942. The production of eggs showed the most noticeable increase, but farmers also made an important contribution to war-time food requirements in the production of poultry meat. In 1943 the consumption of meats showed an increase over that of 1942 and farmers found a ready sale for all available supplies.

Poultry Meat and Farm Egg Production in Canada, by Economic Areas, 1941-43

Economic Area	Year	Poultry Meat Production			Egg Production		
		Total	Marketed	Farm-Home Consumed	Total ¹	Marketed	Farm-Home Consumed
Maritime Provinces..	1941	10,042	8,859	1,183	13,295	8,283	4,575
Maritime Provinces..	1942	12,330	10,219	2,111	16,251	9,986	5,741
Maritime Provinces..	1943	13,616	11,279	2,337	19,227	11,825	6,761
Quebec and Ontario..	1941	103,273	84,542	18,731	116,611	69,281	43,598
Quebec and Ontario..	1942	111,337	86,665	24,672	129,559	93,832	31,491
Quebec and Ontario..	1943	118,027	91,819	26,208	143,875	104,571	34,453
Prairie Provinces....	1941	97,751	80,844	16,907	93,403	58,939	31,218
Prairie Provinces....	1942	125,365	98,530	26,835	112,067	72,620	35,519
Prairie Provinces....	1943	120,500	93,724	26,776	127,884	82,970	40,306
British Columbia....	1941	8,941	7,714	1,227	20,848	17,846	2,335
British Columbia....	1942	9,618	7,750	1,868	22,376	18,841	2,797
British Columbia....	1943	11,289	9,087	2,202	24,041	20,219	3,005
Totals.....	1941	220,007	181,959	38,048	244,157	154,349	81,726
Totals.....	1942	258,650	203,164	55,486	280,253	195,279	75,548
Totals.....	1943	263,432	205,909	57,523	315,027	219,585	84,525

¹ Includes eggs for hatching.



Poultry Improvement.—The Experimental Farm at Ottawa is experimenting with protein levels in the rations of poultry. The picture shows increased utilization of pasture by birds on feed deficient in protein.

Department of Agriculture

The population of hens and chickens at June 1, 1944, was estimated at approximately 86,792,000. Turkeys numbered approximately 3,306,000, geese 658,000 and ducks 839,000. As compared with 1943, these figures represented an increase of approximately 16 p.c. in the number of hens and chickens and 16 p.c., 5 p.c., and 23 p.c., respectively, in the numbers of turkeys, geese and ducks. During the year 1943, the production of farm eggs amounted to approximately 315,000,000 doz., and is estimated at 355,000,000 doz. for 1944. Over the past few years there has been a considerable increase in the egg production per hen. The gross farm value of poultry meat in 1943 was \$66,610,000, and the gross value of production of farm eggs was estimated at \$100,306,000. The domestic disappearance of poultry meat was approximately 23 lb. per capita.

Fruits and Vegetables

Fruits.—The 1944 season was marked by the unusually large crops of fruit produced in British Columbia. Record crops of all tree fruits were harvested. While yields in the other producing provinces were not of record proportions, the total volume of fruit was somewhat higher than in 1943. The total apple crop produced in 1944, currently estimated at 16,487,400 bu., was substantially larger than the 12,892,200 bu. harvested in 1943. The increase in 1944 was due to the favourable conditions in Nova Scotia, Ontario and British Columbia where crops of 5,406,000 bu., 2,411,400 bu. and 7,500,000 bu., respectively, were harvested as compared with 4,846,200 bu., 2,371,800 bu. and 4,433,200 bu. in 1943. While the crops grown in New Brunswick and Quebec were larger than average, production was slightly below that of 1943.

The trend toward enlargement of prune plantings in both Ontario and British Columbia during the past number of years is now beginning to be felt in the markets in both Eastern and Western Canada where increasing quantities of this type of plum are appearing year after year.



Fruit Breeding.—New varieties of apples, pears, plums, cherries, strawberries, raspberries, currants and gooseberries are being developed with emphasis on hardiness and disease resistance. In tree-fruit breeding crosses are made on pot-grown trees in the greenhouse during late winter or early spring.

Department of Agriculture

Strawberry production in 1944 again followed the downward trend that has been apparent since 1939. Undoubtedly the decrease in acreage in British Columbia, brought about by the removal of the Japanese from the coastal area, has affected the total output, but the increasing labour shortage in other provinces has also been a factor and growers generally have tended to reduce the acreage.

Values of Fruits Produced in Canada, 1940-43 with Five-Year Averages 1935-39

Fruit	Five-Year Average 1935-39	1940	1941	1942	1943
	\$	\$	\$	\$	\$
Apples.....	10,978,000	8,779,000	9,472,000	14,390,000	16,569,000
Pears.....	701,000	800,000	1,137,000	1,429,000	1,462,000
Plums and prunes.....	318,000	338,000	822,000	737,000	1,134,000
Peaches.....	1,473,000	1,919,000	2,808,000	3,550,000	2,079,000
Apricots.....	104,000	148,000	154,000	227,000	102,000
Cherries.....	556,000	598,000	1,413,000	1,587,000	1,545,000
Totals, Tree Fruits.....	14,130,000	12,582,000	15,806,000	21,920,000	22,891,000
Strawberries.....	2,104,000	2,044,000	2,211,000	2,057,000	3,337,000
Raspberries.....	953,000	1,214,000	1,156,000	1,664,000	2,709,000
Grapes.....	793,000	1,038,000	1,252,000	1,862,000	1,747,000
Loganberries.....	100,000	100,000	112,000	153,000	157,000
Totals, Small Fruits.....	3,950,000	4,396,000	4,731,000	5,736,000	7,950,000
Totals, All Fruits.....	18,080,000	16,978,000	20,537,000	27,656,000	30,841,000

Vegetables.—Vegetable growing, although one of the minor branches of agriculture, is nevertheless essential, as vegetables supply many of the elements necessary to maintain the national health. With the outbreak of war some of the sources of citrus fruits were cut off and other supplies were greatly reduced. In an effort to make up the deficiencies, particularly of vitamin C, which citrus fruits supply, more and more emphasis has been put on increasing Canada's production of vegetables. One step in the program to ensure the increase was to bonus the growers for the production of four major processing crops, namely peas, beans, corn and tomatoes.

According to a survey made in June, 1944, there was an over-all increase of approximately 27 p.c. in the area planted in 1944 over that of the previous season. Included in the total area is the acreage of the processing crops. In June of 1944 the area under contract with the processors was 123,600 acres compared with the 1943 contracted acreage of 106,000 acres, an increase of 16.6 p.c.

Provincial Assistance to Agriculture

Each of the nine provinces, under Sect. 95 of the B.N.A. Act, has its Department of Agriculture, through which is carried on educational and extension work to assist farmers. Agricultural colleges maintained by the provinces are: the Nova Scotia Agricultural College at Truro, the Ontario Agricultural and the Ontario Veterinary Colleges at Guelph, and the College of Agriculture at Saskatoon. Three agricultural colleges in Quebec are assisted by the Provincial Government, while faculties of agriculture are found in the provincial universities of Manitoba, Alberta and British Columbia.

Apple Picking Time in a
Maritime Orchard.



CHAPTER IV

Forest Resources

Canada's forests cover an area of 1,220,400 square miles, or more than one-third of the total land area of the country, but a considerable part of this vast forest is not suitable for commercial operations, either because it is too difficult and expensive to reach, or because the trees are not of satisfactory size and quality. The accessible productive portion of the forest covers 430,000 square miles, or 275 million acres, and it is from this area that the whole output of sawlogs, pulpwood, fuelwood, and other primary products is obtained. About 340,000 square miles of forests, classed as productive but not at present accessible, form a reserve for the future when transportation systems may be more highly developed.

By far the larger part of the world demand for wood is for softwood, or coniferous species. Canada possesses the principal reserves of softwoods within the British Empire, and these include large supplies of the most desirable varieties—spruces, Douglas fir, western hemlock, western red cedar, and white, red, and other pines. In addition, the eastern provinces furnish hardwoods, such as birches, maples and elms, which are particularly useful for special purposes.

The total stand of timber of merchantable size is estimated to be approximately 313,000 million cubic feet, of which 212,000 million cubic feet are accessible. In terms of ordinary commercial units of measurement, the accessible portion of the stand consists of 252,000 million feet board measure of sawlogs and 1,500 million cords of smaller material. Nearly 70 p.c. of the accessible stand is of softwood species.

It is self-evident that the extraordinary demand created by the War for forest products of all kinds has imposed an abnormal drain on the reserves of merchantable timber. There has been particularly severe over-cutting of such specially valuable trees as Sitka spruce and the finer specimens of yellow birch. In addition, shortages of labour have seriously hampered protection of the forests against fire and other enemies, and forest research has been brought almost to a standstill.

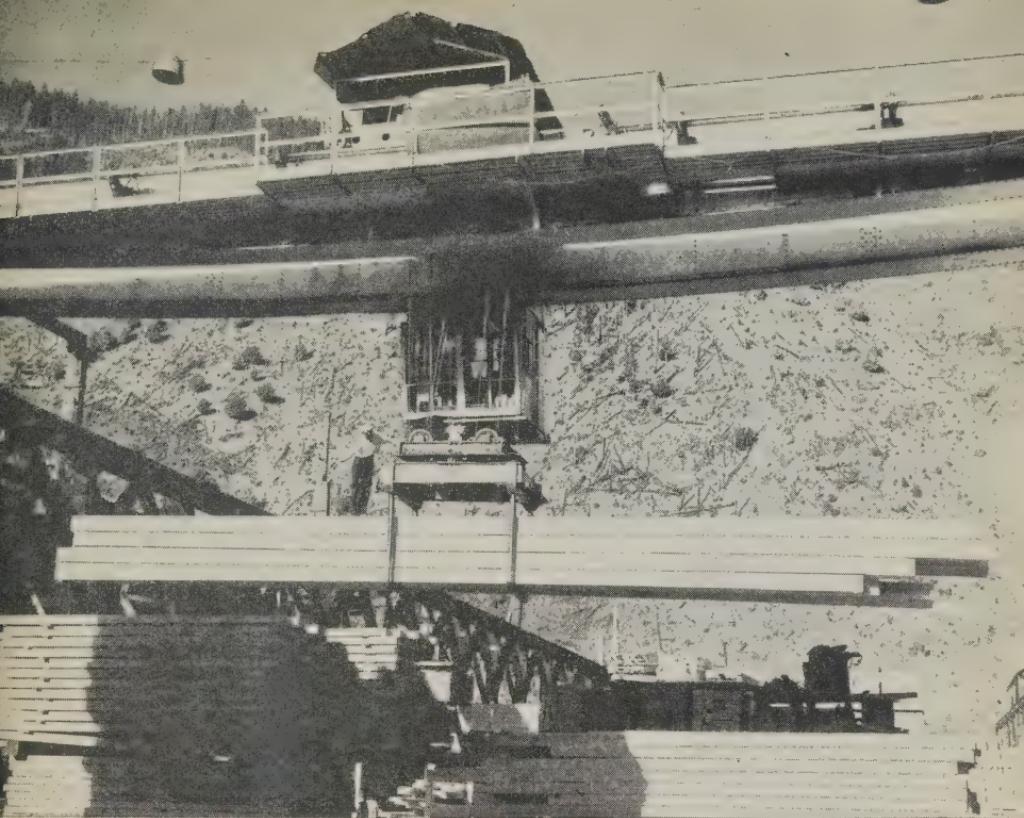
If the forests are not to be impaired, the volumes of wood removed each year to serve useful purposes and the volumes burned or destroyed by pests must be replaced by annual growth. The relationship between the normal pre-war rate of depletion and the rate effective under war conditions in 1941 and 1942 is illustrated in the following statement.

FOREST DEPLETION

NOTE.—Volumes are stated in millions of cubic feet of standing timber.

	<i>Ten-Year Average 1930-39 (Pre-War)</i>	<i>1941</i>	<i>1942</i>
Cut for use.....	2,519	3,354	3,249
Destroyed by fire.....	404	1,045	162
Destroyed by insects and tree diseases.....	700	700	700
Totals.....	<u>3,623</u>	<u>5,099</u>	<u>4,111</u>

Most of the depletion takes place on the accessible portions of the forests and replacement on these areas requires an average annual growth of about 14 cu. ft. per acre. It seems probable that, under pre-war conditions, growth was equal to



Modern Method of Stacking and Loading Lumber.

Courtesy, Canadian National Railways

depletion, so far as total volume of trees of all species was concerned, but it is questionable whether the much higher rate of depletion experienced during the war years could be maintained indefinitely under present methods of forest management.

While war continues the demands on Canada's forests will inevitably remain at a high level. Although production of newsprint has been somewhat curtailed it continues to be an important commodity in our export trade and the demand for other papers and for wood-pulps is strong both at home and abroad. Wood has been proved, under war conditions, to be the most versatile of materials and is constantly being substituted for other materials that are in short supply. Tremendous new possibilities for use of inferior grades of wood, which now have limited or no use for industrial purposes, have been opened up by the development of the chemical process known as the transmutation of wood, a process that converts soft, non-uniform, inflammable and readily deteriorating wood into ebony-hard, homogeneous, fire-resistant and long-durable material.

The post-war outlook for Canada's lumber industry has been materially improved by the conclusion of an agreement between the British Ministry of Supply and Canadian lumber producers and exporters, whereby the latter have undertaken to ship to Britain in the first two years after the War as much lumber as is permitted by the Timber Controller, who has set the maximum annual figure at 1,200,000,000 bd. ft., or about 25 p.c. of the country's total output.

Silvicultural Research.—Reforestation in Ontario. *Left:* A young stand of red pine newly thinned. *Centre:* The same stand one year later showing additional growth. *Right:* A plantation of more mature red pine after thinning and pruning, and freed from undergrowth.

Dominion Forest Service



War-time Controls.—After the outbreak of war, the demands made on the lumber industry became increasingly heavy. By the spring of 1940 Canada had become almost the sole source of supply available to the United Kingdom; wood was the chief building material used for the construction programs for naval, military and air-force establishments and for munitions factories in Canada; exports of lumber to non-sterling countries had to be kept up as a source of urgently needed foreign exchange; and, in addition, sufficient lumber had to be found to meet the needs of essential civil business. In order to ensure that available lumber would be used to the best advantage, a Timber Controller for Canada was appointed in the Department of Munitions and Supply by Order in Council in June, 1940. The Control is divided into three major divisions:—

Lumber.—The Timber Control is responsible for the distribution of Canadian lumber production. This includes obtaining requirements for the Canadian war program and essential civilian purposes; for supplying the United Kingdom and the British Dominions with as great a volume as is possible and making available to the United States an equitable volume of production for the war program of that country.

Pulpwood.—The Timber Control is responsible for pulpwood production and distribution, which involves not only domestic needs but also the quantity that moves to the United States.

Fuelwood.—The Timber Control is responsible for the production and equitable distribution of fuelwood. This involves stimulating production, arranging for transportation where necessary, and the stock-piling of reserves for emergency use.

In addition, as Timber Administrator for the Wartime Prices and Trade Board, the responsibility for price control of lumber, pulpwood and fuelwood are assumed by the Control.

During 1942 all business in wood-pulps and papers was placed under the control of administrators of the Wartime Prices and Trade Board, the first Newsprint Administrator being appointed in December, 1941. The Timber Controller in his relation to pulpwood production and the Newsprint Administrator in his control of wood-pulps and papers therefore work in close co-operation.



Operations in the Woods

Generally speaking, the operations in the woods form the preliminary step in the industry and provide the primary forest products in the form of logs or bolts which are the raw material for the mill operations that form the second stage. An exact separation of the statistics relating to these two stages in the industry cannot always be made nor can the lumber industry be treated as entirely distinct from the pulp and paper industry. Woods operations produce not only sawlogs but pulpwood, ties, poles, piling, square timber, mining timbers, firewood, fence posts, wood for charcoal and excelsior manufacture, and wood for distillation. It is often impossible to state for what purpose the timber being cut will eventually be used. Many lumber manufacturers install machinery for cutting-up and barking pulpwood, and direct a part of their spruce and balsam logs to pulp manufacture; some pulp and paper companies operate sawmills in connection with their plants for the purpose of utilizing the larger timber on their limits.

It has been estimated that operations in the woods in Canada in 1942 involved the investment of over \$248,000,000, gave employment during the logging season amounting to 33,785,000 man days, and distributed over \$156,000,000 in wages and salaries.

Values of the Products of Woods Operations, by Products, 1938-42

Products	1938	1939	1940	1941	1942
Logs and bolts.....	\$ 52,759,660	\$ 55,685,197	\$ 71,817,471	\$ 86,514,625	\$ 92,897,611
Pulpwood.....	53,761,999	58,302,668	74,347,132	88,193,045	103,619,151
Firewood.....	32,740,566	33,058,240	33,297,756	26,662,296	27,264,486
Hewn railway ties.....	2,222,509	2,048,186	1,788,001	1,547,780	878,830
Poles.....	2,824,512	2,940,361	2,691,107	2,467,336	2,663,603
Round mining timber.....	1,297,993	1,461,507	5,707,677	2,458,435	2,169,268
Fence posts.....	978,679	1,111,883	999,934	964,568	1,291,393
Wood for distillation.....	298,110	289,230	518,204	588,747	745,408
Fence rails.....	264,480	267,437	270,320	262,521	341,607
Miscellaneous products.....	1,117,349	2,582,689	3,130,273	3,503,736	2,500,534
Totals.....	148,265,857	157,747,398	194,567,875	213,163,089	234,371,891

The Lumber Industry

Except in the Maritime Provinces, 90 p.c. of the forest land is the property of the Crown, lumbermen being granted cutting rights only. This land is administered by the various provincial departments. Conifers usually form about 95 p.c. of the total cut of all kinds of wood, only 5 p.c. being deciduous-leaved trees or hardwoods. Douglas fir is the most important kind of lumber sawn, and is produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with white pine, hemlock, cedar, and yellow birch next in order of importance.

The industry includes products of: sawmills; shingle, tie, lath, shook, stave, heading and hoop mills; and mills for the cutting-up and barking of pulpwood. Sawn lumber produced in 1942 amounted to 4,935,145 M ft. valued at \$149,854,527. Shingles numbered 3,720,482 M squares at \$13,191,084, sawn ties 4,883,408 at \$3,314,626, and lath 181,994 M at \$737,874. The gross value of production for the industry as a whole showed an increase of 18 p.c. over the total for 1941.

Production of Sawn Lumber and All Sawmill Products, 1942

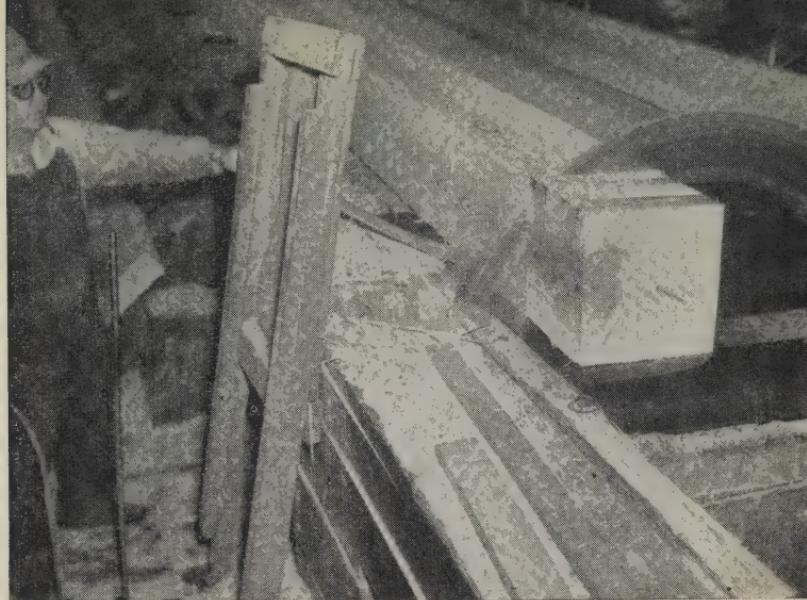
Province or Territory	Sawn Lumber Production		Total Sawmill Products
	M ft. b.m.	\$	
Prince Edward Island.....	5,732	135,064	184,379
Nova Scotia.....	253,525	6,854,883	7,604,655
New Brunswick.....	328,927	10,707,419	14,289,646
Quebec.....	1,010,510	31,752,397	40,425,028
Ontario.....	625,433	22,460,700	28,345,474
Manitoba.....	82,243	2,286,034	2,493,695
Saskatchewan.....	125,657	3,065,148	3,323,373
Alberta.....	198,898	4,821,022	5,527,455
British Columbia.....	2,303,552	67,741,700	90,695,092
Yukon.....	668	30,160	30,280
Totals.....	4,935,145	149,854,527	192,919,077

The Pulp and Paper Industry

The manufacture of paper was a relatively unimportant industry in Canada until the last two decades of the past century when wood-pulp superseded rags as a raw material. Canada's extensive pulpwood resources and widely distributed water powers have been largely responsible for the remarkable development of the industry. From the early 'twenties until 1941, the pulp and paper industry headed the lists in net value of production and in wage and salary distribution, replacing the sawmills in both cases. Since 1942, some of the war industries have surpassed it in these respects. In these comparisons only the manufacturing stages of the pulp and paper industry are considered, no allowance being made for capital invested, employment furnished, payroll, or production of operations in the woods.

The volume of pulp and paper produced in 1943 was lower than the previous year, chiefly because of decreases in the production of mechanical pulp and newsprint paper following control restrictions on power and labour. However, because of substantial increases in the price of pulp, paper and paperboard, the gross value of the products of this industry rose to a new high.

Sawing a Large Douglas Fir Log in a British Columbia Saw-mill.



Courtesy,
Canadian National
Railways

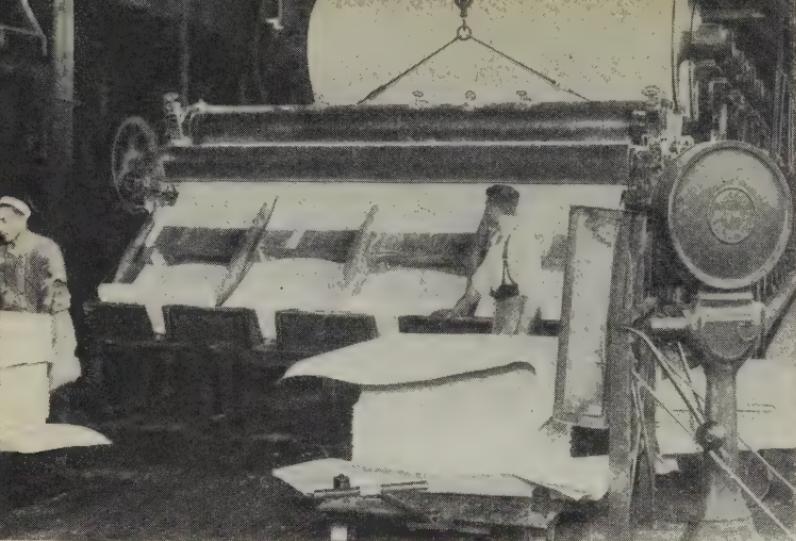
Considering only the manufacturing aspect of the industry, or the manufacture of woodpulp and paper, the gross value of production in 1943 was 2.7 p.c. over the previous record of 1942 and an increase of 41.6 p.c. over 1929. Figures from 1930 are:—

	<i>Gross Production</i>	<i>Net Production</i>		<i>Gross Production</i>	<i>Net Production</i>
1930.....	\$215,674,246	\$107,959,927	1937.....	\$226,244,711	\$106,002,017
1931.....	174,733,954	88,166,297	1938.....	183,897,503	89,034,186
1932.....	135,648,729	67,121,459	1939.....	208,152,295	103,123,660
1933.....	123,415,492	57,289,643	1940.....	298,034,843	158,230,575
1934.....	152,647,756	77,696,593	1941.....	334,726,175	174,852,041
1935.....	159,325,546	79,199,741	1942.....	336,697,277	164,500,420
1936.....	183,632,995	86,406,163	1943.....	345,653,470	165,485,944

There are three classes of mills in the industry. These, in 1943, comprised 28 making pulp only, 50 combined pulp and paper mills, and 28 making paper only. In 1943 the 78 mills making pulp produced 5,272,830 tons valued at \$194,434,202, representing a decrease of 6 p.c. in quantity but an increase of 1.2 p.c. in value over 1942. About 68 p.c. by quantity was made in combined mills and used by them in papermaking and about 32 p.c. was made for sale in Canada and for export.

The Present Situation as Regards Newsprint.—The record of the Canadian newsprint industry cannot be reckoned in terms of newsprint tonnage alone. Since newsprint mills were the largest peace-time users of electricity, they have had to effect curtailment in various localities. Industry resources in shipping, manpower, wood and other materials have also been diverted to war necessities and newsprint mills were called on to help produce emergency pulps; so that newsprint production capacity was accordingly reduced.

However, the normal pre-war supply has not only been maintained but has been surpassed by 225,758 tons a year. The pre-war average has been surpassed in each of the five war years, including 1944 as at present estimated. For United States consumers, Canadian mills have more than filled the gap caused by loss of Scandinavian tonnage. Canadian mills have also supplied over 80 p.c. of quotas for South American countries and, with help from Newfoundland, have provided all the imports for Britain, Australia, New Zealand, Africa and India.



Splitting and cutting end of a drying machine in a chemical pulp mill. The pulp sheets are piled on trucks for weighing and baling.

*Courtesy,
Canadian National
Railways*

Due to shortage of shipping space, particularly in 1942 and 1943, Canadian deliveries of supplies to Britain, Australia and other overseas consumers were severely curtailed, and because of these overseas curtailments United States consumers have had an increased share of Canadian supply, rising from a pre-war average of 76 p.c. to a peak of 88 p.c. in 1942 and a war-time average of over 81 p.c.

The present estimate of Canadian tonnage for United States consumers in 1944 is the lowest of the war years to date, due to improvement in supply to Britain and Australia, but it is still about 115,000 tons or 5 p.c. better than the pre-war average. In 1944 North American consumption will be reduced, but United States and Canadian consumers, in relation to those in other countries, will still be in a highly favourable supply position.

Newsprint made up 77 p.c. of the total production of Canada's 78 paper mills in 1943; paper boards 14 p.c.; wrapping paper 4 p.c.; book and writing paper 3 p.c.; and tissue and miscellaneous papers the remainder.

Production of Newsprint and Total Paper in Canada, 1935-43

Year	Newsprint Paper		Total Paper	
	Quantity	Value	Quantity	Value
			tons	\$
1935.....	2,765,444	88,436,465	3,280,896	125,752,650
1936.....	3,225,386	105,214,533	3,806,710	146,354,666
1937.....	3,673,886	126,424,303	4,345,361	175,885,423
1938.....	2,668,913	107,051,202	3,249,358	151,650,065
1939.....	2,926,597	120,858,583	3,600,502	170,776,062
1940.....	3,503,801	158,447,311	4,319,414	225,836,809
1941.....	3,519,733	158,925,310	4,524,776	241,450,292
1942.....	3,257,180	147,074,109	4,231,767	230,269,512
1943.....	3,046,442	154,290,163	3,966,344	235,362,958

Monthly figures of Canadian newsprint production for 1944 are:—

	Tons		Tons		Tons
January.....	242,658	May.....	262,467	September.....	244,209
February.....	240,005	June.....	246,864	October.....	258,301
March.....	252,092	July.....	244,406	November.....	256,762
April.....	236,353	August.....	262,695	December.....	244,970

CHAPTER V

Fur Production

The value of the fur trade to Canada cannot be measured on a dollars-and-cents basis. Like gold, spices and other highly desired products, furs were an important incentive to the voyages of exploration from Great Britain and Continental Europe in the early days of the Western Hemisphere.

In modern times there have been great changes in the fur trade. The railway first revolutionized conditions throughout the country, then more recently the advent of the motor-vehicle has influenced the extension of highways to the borders of settlement, and beyond. Boats ply the lakes and rivers, and the aeroplane is requisitioned for the transportation of furs from the more inaccessible districts. The advance of lumbering, mining and agricultural settlement, together with improved methods of capture, have driven fur-bearing animals farther and farther afield, and caused serious reduction in their numbers. To guard against further depletion and to ensure the prosperity of Canada's great wild-life heritage, the Dominion and Provincial Governments have adopted, in co-operation, a strong policy of conservation.

Numbers and Values of Pelts Taken, Years Ended June 30, 1930-43

Year Ended June 30	Pelts		P.C. of Value Sold from Fur Farms	Year Ended June 30	Pelts		P.C. of Value Sold from Fur Farms
	Number	Value			Number	Value	
	\$	\$			\$	\$	
1930.....	3,798,444	12,158,376	19	1937.....	6,237,640	17,526,365	40
1931.....	4,060,356	11,803,217	26	1938.....	4,745,927	13,196,354	43
1932.....	4,449,289	10,189,481	30	1939.....	6,492,222	14,286,937	40
1933.....	4,503,558	10,305,154	30	1940.....	9,620,695	16,668,348	31
1934.....	6,076,197	12,349,328	30	1941.....	7,257,337	21,123,161	26
1935.....	4,926,413	12,843,341	31	1942.....	19,561,024	24,859,869	19
1936.....	4,596,713	15,464,883	40	1943.....	7,418,971	28,505,033	25

Numbers and Values of Pelts Taken, by Provinces, Years Ended June 30, 1941-43

Province or Territory	Pelts			Values		
	1941	1942	1943 ¹	1941	1942	1943 ¹
	No.	No.	No.	\$	\$	\$
Prince Edward Island.....	32,486	32,427	31,280	804,083	735,189	760,385
Nova Scotia.....	94,113	101,731	112,235	476,310	532,059	920,515
New Brunswick.....	83,232	78,910	70,167	982,551	834,671	864,489
Quebec.....	348,977	601,211	541,788	2,476,556	3,894,630	4,562,354
Ontario.....	1,051,412	1,024,195	1,048,178	3,901,012	3,965,003	5,806,743
Manitoba.....	869,057	844,631	878,989	2,763,976	2,596,436	3,242,655
Saskatchewan.....	1,026,656	3,813,447	1,174,164	2,324,479	2,245,275	2,440,942
Alberta.....	2,601,424	11,713,686	2,446,665	2,806,074	5,162,636	4,542,818
British Columbia.....	631,480	838,750	677,168	1,913,667	1,655,137	1,860,990
Northwest Territories.....	447,547	445,336	385,440	2,301,054	2,840,701	3,165,107
Yukon.....	70,953	66,700	52,897	373,399	398,132	338,035
Canada.....	7,257,337	19,561,024	7,418,971	21,123,161	24,859,869	28,505,033

¹ Preliminary figures.



A Trapper's Cabin
and Cache in the
Northwest Territories.

*Courtesy,
Department of
Mines and Resources*

During the war years, the value of Canadian raw fur production has shown substantial increases; the value of pelts sold from fur farms and those taken by trappers during the year ended June 30, 1943, reached a new record at \$28,505,033. This was an increase of 15 p.c. over the 1942 figure, which was, in turn, an increase of 18 p.c. over the 1941 total. Approximately 76 p.c. of the 1943 value represented furs taken by trappers in the wild.

Generally higher prices were responsible for the increased valuation in 1943. Pelts of mink contributed the largest amount to the total value with a valuation of \$5,848,242, muskrat ran a close second at \$5,671,910 and silver fox third at \$4,663,079. Beaver pelts, with a valuation of \$3,026,652, were another important source of revenue for trappers and fur farmers. Silver fox rose in price from an average of \$22.96 in 1942 to \$24.84 in 1943, red fox from \$8.81 to \$12.50 and white fox from \$25.74 to \$28.37; muskrat rose from \$2.06 to \$2.74; beaver from \$22.55 to \$29.96; and squirrel from 31 cents to 34 cents.

The large increase in the total number of pelts taken in 1942 over 1941 was mainly accounted for by increases in the numbers of squirrel and rabbit pelts which were in great demand for linings for clothing for the Armed Forces. In 1943 the numbers of these pelts taken dropped to slightly over the 1941 level, rabbit from 9,012,329 in 1942 to 1,080,285 in 1943 and squirrel from 5,761,433 to 2,227,161, and this accounted for the major portion of the decline in the total number of pelts taken from 19,561,024 in 1942 to 7,418,971 in 1943.

Fur Farming.—Although the fox was the first important commercial fur bearer to be raised in captivity, many other kinds of fur-bearing wild animals are now being raised—mink, raccoon, skunk, marten, fisher and rabbit. Mink farms are the most numerous of the miscellaneous class, raccoon farms coming next. From 1920 to 1939 fur farming in Canada expanded rapidly and during that period there was a marked change in the type of furs that were most acceptable to the market. Black fox were popular twenty-five years ago. A few years later the highest prices were being paid for quarter- and half-silvers and during recent years the full-silver and new-type have been setting the upper price limit. The development of the new-type fox and mink has proven to be an incentive to the fur-farming industry. New-type fox such as platinum, platinum-silver, pearl-platinum and white-marked are meeting a ready market as are the new-type mink including silver-sable, platinum-

silver blue, snow-white and a number of other colour phases. In 1939 the Dominion Government introduced the grading of furs under the Department of Agriculture. One of the main objectives in grading is to secure uniformity, so that furs may be bought by grade without the necessity of buyers from foreign countries personally examining the pelts.

Statistics of Fur Farming.—The number of fur farms in operation in Canada in 1942 was 7,835 compared with 8,440 in the preceding year and it is expected that there will be a further decrease in 1943 due to the effects of the War. With the smaller number of farms in 1942, the value of fur-farm property decreased to \$13,912,835, 8 p.c. lower than in the preceding year. Quebec stood first among the provinces in value of fur-farm property with 21.7 p.c. of the total. The other provinces ranked as follows: Ont., 19.2 p.c.; Alta., 16.1 p.c.; Man., 13.4 p.c.; P.E.I., 9.3 p.c.; Sask., 6.8 p.c.; N.B., 5.5 p.c.; B.C., 5.1 p.c.; N.S., 2.8 p.c.; and Yukon, 0.1 p.c.

The total revenue of the fur-farming industry in 1942 was \$7,155,999, 94 p.c. of which was received from the sale of pelts and the remainder from the sale of live animals. Silver and new-type fox pelts accounted for \$3,821,518, or 57 p.c. of the total pelt sales, and mink for \$2,793,573, or 41 p.c. The average value of silver-fox pelts was \$21.94 compared with \$22.81 in 1941, and of mink pelts \$7.98 compared with \$10.62. Live silver fox sold numbered 3,438 and were valued at \$151,418; mink numbered 6,102 valued at \$109,356; and new-type fox, including platinum, white-face, silver-blue, etc., numbered 975 valued at \$146,490. Compared with 1941, the total value of pelts sold showed an increase of \$1,939,614, while the value of live animals sold decreased by \$365,954.

The value of the animals on the farms at the end of 1942 was \$6,753,855, of which 65 p.c. was of silver and new-type fox and 30 p.c. of mink. The 95,149 silver

The Trapper, a Full-Blooded Cree Indian, Returns to the Post with his Catch.



Courtesy, Hudson's Bay Company



Norway House, Outpost of the Hudson's Bay Company.—This post, the building of which commenced about 1830, was once the great distributing centre of the North. Indian trappers still operate from Norway House and their furs are shipped to Winnipeg by air, far above the old dog-team trails.

Courtesy, Hudson's Bay Company

and new-type fox on the farms was a decrease from the preceding year of 2,905, and the 104,686 mink a decrease of 48,761. The total number of fur-bearing animals on farms was 204,480 compared with 256,928 in 1941.

From information received direct from the fur farmers, it is estimated that 106,700 standard silver fox, 32,400 new-type fox and 229,000 mink will be pelted in the season 1944-45.

Trade in Furs.—Before the outbreak of war, a large proportion of the total production of Canadian furs found their way to the London market where they were prepared and manufactured and returned to Canada in the form of the finished product. Under the circumstances brought about by the War, Canada's trade in furs is now carried on mainly with the United States.

Exports and Imports of Raw and Dressed Furs, Calendar Years 1936-43

Year	Exports ¹			Imports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
1936.....	\$ 9,603,161	\$ 7,265,603	\$ 17,666,213	\$ 1,094,131	\$ 4,272,302	\$ 7,000,917
1937.....	10,722,537	5,728,014	17,515,460	1,676,407	4,293,135	8,169,840
1938.....	8,794,834	4,478,818	14,096,503	1,135,686	3,148,940	5,650,624
1939.....	7,054,745	6,772,641	14,568,986	1,018,417	4,455,938	7,133,052
1940.....	3,306,271	12,187,096	16,176,075	920,528	6,813,080	8,885,540
1941.....	430,428	14,883,751	16,159,033	1,970,910	4,112,345	9,120,337
1942.....	156,586	16,869,153	17,976,615	945,360	3,306,214	6,448,861
1943.....	66,844	25,086,912	26,448,522	496,578	4,923,632	8,613,879

¹ Canadian produce only.

CHAPTER VI

Fisheries Production

Canada has perhaps the largest fishing grounds in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The Bay of Fundy, 8,000 square miles in extent, the Gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled entirely by the Dominion. The Pacific Coast of the Dominion measures 7,180 miles in length. Inland lakes contain more than half of the fresh water on the planet; Canada's share of the Great Lakes alone has an area of over 34,000 square miles.

Statistics of Production

Canada's list of food fishes embraces nearly 60 different kinds, chief among which are salmon, herring, cod, lobster, whitefish, halibut, sardines, haddock, pilchard and pickerel. The total quantity of fish of all kinds taken by Canadian fishermen in 1942 was 11,233,710 cwt., for which fishermen received, at the point of landing, a total of \$41,734,723 compared with a catch of 11,095,611 cwt. with a landed value of \$34,377,866 in 1941.

Fisheries Production, by Provinces, 1914, 1942 and 1943

Province or Territory	Values of Production			Percentages of Total Values		
	1914	1942	1943 ¹	1914	1942	1943 ¹
	\$	\$	\$	p.c.	p.c.	p.c.
Prince Edward Island.....	1,261,666	1,639,539	2,860,946	4.1	2.2	3.3
Nova Scotia.....	7,730,191	15,297,482	21,726,784	24.7	20.4	25.4
New Brunswick.....	4,940,083	7,132,420	11,817,461	15.8	9.4	13.8
Quebec.....	1,924,430	4,194,092	5,008,806	6.2	5.6	5.8
Ontario.....	2,755,291	4,135,205	5,292,268	8.8	5.5	6.2
Manitoba.....	849,422	3,577,616	4,564,551	2.7	4.8	5.3
Saskatchewan.....	132,017	585,782	1,154,544	0.4	0.8	1.4
Alberta.....	86,720	492,182	795,000	0.3	0.6	0.9
British Columbia.....	11,515,086	38,059,559	32,477,964	36.8	50.7	37.9
Yukon.....	69,725	3,056	2,495	0.2	—	—
Totals.....	31,264,631	75,116,933	85,700,819	100.0	100.0	100.0

¹ Preliminary.

The salmon fishery of British Columbia gives to that province first place in respect to value of production, the position that in earlier times belonged to Nova Scotia with her cod fishery. The herring fisheries (on both the Atlantic and Pacific Coasts) are of rising importance and second only to salmon in value of output. Canned herring is the chief product, but herring meal and oil are also produced. On the Atlantic Coast, the cod, lobster and sardine fisheries are of importance, while among the inland fishes, whitefish occupies first place.

The statistics in the following table are based upon the averages of the three latest pre-war years and of the three first complete years of hostilities.



Fish Culture.—
Top: Newly hatched fish are placed in these rearing ponds until they are large enough to be distributed in streams and lakes. Each rearing pond holds about 50,000 young fish. *Bottom:* Stripping male salmon of milt to fertilize eggs previously stripped from female salmon, prior to placing them in hatching troughs.

*Courtesy,
Department of
Fisheries*

**Averages of Production and Values Marketed by Principal Kinds of Fish,
1937-39 and 1940-42**

Kind of Fish	Averages 1937-39		Averages 1940-42	
	Quantity Caught	Value Marketed	Quantity Caught	Value Marketed
			cwt.	\$
Salmon.....	1,664,230	13,590,685	1,680,962	19,524,211
Herring.....	2,985,237	2,941,470	3,697,095	7,963,487
Cod.....	1,620,385	3,236,507	1,944,137	7,480,473
Lobsters.....	313,000	4,069,658	275,421	4,043,628
Whitefish.....	164,179	1,753,526	171,300	2,492,302
Halibut.....	165,952	1,835,115	139,826	2,246,936
Sardines.....	220,339	1,740,151	329,573	2,291,269
Haddock.....	389,189	1,338,456	301,800	1,529,455
Pilchards.....	702,436	623,440	1,031,328	1,476,959
Pickerel.....	130,780	980,896	120,048	1,235,050

The fish-processing industry is connected entirely with the sea fisheries, the plants being scattered along the coasts in locations of easy accessibility to the fishermen in delivering their catches. Capital invested in fish-processing establishments, vessels, boats, nets, traps, etc., in 1942 amounted to \$62,632,045, and the number of persons finding part-time or full-time employment was 77,084.

Output and Demand, 1944.—Preliminary, unrevised reports as to the results of sea-fishing operations in the first eight months of 1944 showed a decrease in landings, as compared with landings in the corresponding period of 1943. It may be mentioned, however, that a great deal of credit is due to the fishing industry for maintaining war-time production so well under adverse conditions, including the sharp reduction in working force as a result of enlistments, etc.

In 1944, as in the earlier war years, the urgent needs of the United Nations for Canadian fishery products as well as domestic requirements had to be met. This year, moreover, the United Nations Relief and Rehabilitation Administration is looking to Canada for large quantities of certain classes of fish products. Allocations to be made to that Administration by the Dominion under the Combined Food Board will, it is expected, cover approximately 20,000,000 lb. of canned fish, including 2,000,000 lb. of canned mackerel (production of canned mackerel has shown a sharp increase in Canada during the past year or two), 7,250,000 lb. of canned herring, and between 9,000,000 and 10,000,000 lb. of canned flake fish (cod, haddock, hake, and cusk or combinations of these fish). Canadians are perhaps more familiar with canned flake fish under the name "chicken haddie".

Although part of the canned herring pack has been earmarked for UNRRA use, much the larger share, about 51,000,000 lb., of the 1944 output will be made available to the United Kingdom. Similarly, most of the British Columbia canned salmon is being placed at the disposal of the United Kingdom. The year's pack, like that of 1943, will not be up to the average of recent years in size but official estimates put it at about 57,600,000 lb. and of this total more than 41,000,000 lb. have been earmarked for the British authorities. Allocations to the domestic civilian market (12,000,000 lb.), the Armed Services in Canada, and the Red Cross will take up virtually all of the remaining canned salmon. Supplies made available to the Red Cross are for distribution to Canadians in prisoner-of-war camps overseas. All told, the year's canned fish allocations for domestic and war purposes—including canned salmon, herring, flake fish, etc., but excluding canned lobster and other shellfish—represent about 140,000,000 lb. finished product weight.

Headquarters of a Modern Industrial Codfishing Plant, Paspebiac, Gaspe, Que.

Courtesy, Department of Mines and Resources



Under a distribution schedule set up by the Combined Food Board, and accepted by Canada, the Dominion is also supplying to a number of countries 35,000,000 lb., dry weight, from its 1944 production of dried salt fish. Under the same schedule dried fish is likewise being supplied by the other producers—Newfoundland, Greenland, Iceland, and St. Pierre. Over half of the Canadian dried salt fish, or 18,730,000 lb., has been allocated to the United States, including United States territories. Another 7,250,000 lb. have been earmarked for British areas in the Caribbean, slightly more than 3,000,000 lb. for the United Kingdom, 2,500,000 lb. for Cuba, 1,000,000 lb. for Greece, and a like amount for Brazil. The remainder of the 35,000,000 lb. has been apportioned among the Dominican Republic, Panama, Haiti, Surinam and the Netherlands West Indies, Mexico, Costa Rica, and Guatemala.

Pickled fish totalling 30,000,000 lb. and 5,400,000 lb. of herring bloaters from 1944 output have been allocated to the British West Indies (mainly Jamaica), British Guiana, the continental United States, Puerto Rico, Haiti, and Surinam and the Netherlands West Indies. The distribution plan, adjusted to meet the needs of the several consuming countries, was adopted by the Dominion's Food Requirements Committee, on a recommendation made by the Department of Fisheries.

A Skeena River Fishing Fleet at Prince Rupert, B.C.

Courtesy, Canadian National Railways



CHAPTER VII

Mines and Minerals

Mining is one of Canada's most important industries and the annual output includes a wide range of mineral products. In normal times gold mining is an important branch of the industry from point of value and the number employed, but during the war years labour restrictions have reduced the output of gold and greater emphasis has been placed on the production of the important base metals, industrial minerals, coal and oil.

Metallics.—Gold is mined in Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, British Columbia, Yukon and the Northwest Territories. The value of gold production in Canada in 1944 was \$111,090,749. Of this amount, Ontario mines yielded \$65,621,595; Quebec, \$28,518,644; British Columbia, \$7,369,786; Manitoba and Saskatchewan combined, \$7,618,957; and Yukon and the Northwest Territories, \$1,734,232. Practically all the production from the Yukon district was of placer origin.

The principal gold-mining districts in Ontario are Porcupine, Kirkland Lake, Larder Lake, Patricia and Little Long Lac. The Larder Lake Camp has been rejuvenated in recent years and the old Kerr Addison Mine has developed into a very important property.

In Quebec, gold production comes from various mines near the western boundary in the vicinity of Noranda to Louvicourt township on the east. British Columbia production is principally from the Bridge River area, Portland Canal, the Cariboo and Similkameen.

There is only one gold-quartz mine at present producing in Manitoba, and a large part of the present production from that province and from Saskatchewan originates in the copper-gold ores of the Flin Flon Mine. During 1944 considerable activity was carried on in the Yellowknife district of the Northwest Territories. A shortage of labour, however, closed down most of the producing mines, but as a result of intensive diamond drilling and prospecting, this camp has now every indication of becoming Canada's newest producing gold field in the immediate post-war period. There is no doubt that when the labour situation improves the gold-mining industry in Canada will again constitute an important factor in opening up the hinterland and in the creation of a market for materials and goods produced in the factories of the more settled parts of the Dominion.

During war years the base-metal production of the country attained a status of all-time importance. The nickel and copper production from the Sudbury district has been developed to the utmost. As Canada produces 90 p.c. of the world's supply of nickel and, because of its great use in armaments, the nickel industry of the country has played an important part in making possible the successes of the United Nations. In addition to the copper originating in the nickel ores, this metal is also produced in large quantities by the Noranda Mines in Quebec, the Sherritt-Gordon Mines in Manitoba, the Flin Flon in Manitoba and Saskatchewan, and the Britannia and Copper Mountain properties in British Columbia.

Lead production comes in large measure from the ores of the Sullivan Mine in British Columbia; these ores are treated at Trail by the Consolidated Mining and Smelting Company, Limited; lead ores are also exported from Canada and refined abroad.



Crushing and Loading Sulphur at Trail, B.C. — Sulphur is a vital component of gunpowder, rubber, paper, and also of sulphuric acid which is basic in the production of a wide range of chemicals and explosives.

Courtesy, National Film Board

The principal zinc producers are: the Hudson Bay Mining and Smelting Company, operating on the Manitoba-Saskatchewan boundary; New Calumet Mines at Calumet Island in the Ottawa River; the Consolidated Mining and Smelting Company Limited at Trail, B.C.; and Normetal and Golden Manitou in Quebec. One of the most interesting developments to take place during the past year was the bringing into production of a non-ferrous sulphide deposit in the Eastern Townships of Quebec. This orebody was discovered by very careful geological and geophysical prospecting. The ore is rather complex, but a means of mineral separation has been worked out and concentrates containing lead, zinc, copper and some precious metals are now being exported. The mill began operations in July, 1944.

Another important mining operation was brought to fruition in the autumn of 1944 when Steep Rock Iron Mines Limited began shipping a high-grade lump iron-ore from their property near Atikoken in northwestern Ontario. The successful development of this deposit necessitated the draining of Steep Rock Lake and the diversion of the Seine River which entailed tremendous construction and pumping operations. (See pp. 44-51.)

At the beginning of the War, Canada found herself deficient in many of the strategic metals necessary for the manufacture of certain alloys, such as tungsten, molybdenum and chromium. Developments were carried on at several Canadian properties producing these metals, but costs were high and as the situation eased production was discontinued. Mercury was also in short supply and a large mine was opened up with success at Pinchi Lake in northern British Columbia. At the beginning of 1944 the mercury situation for the United Nations was eased and production was reduced.

The production of magnesium at Haley's Station, near Renfrew, Ontario, is another development occasioned by the War. The process of extracting the magnesium from dolomite rock was worked out in the National Research Laboratories, Ottawa, and this plant has been in continuous operation since August, 1942.

The great expansion in the development of hydro-power resources recently completed in the Saguenay District of Quebec has provided the aluminum industry with a greatly increased supply of electric energy. This was largely reflected in an all-time high output of aluminum in 1943 and establishes the Dominion as one of the world's largest producers of the metal.

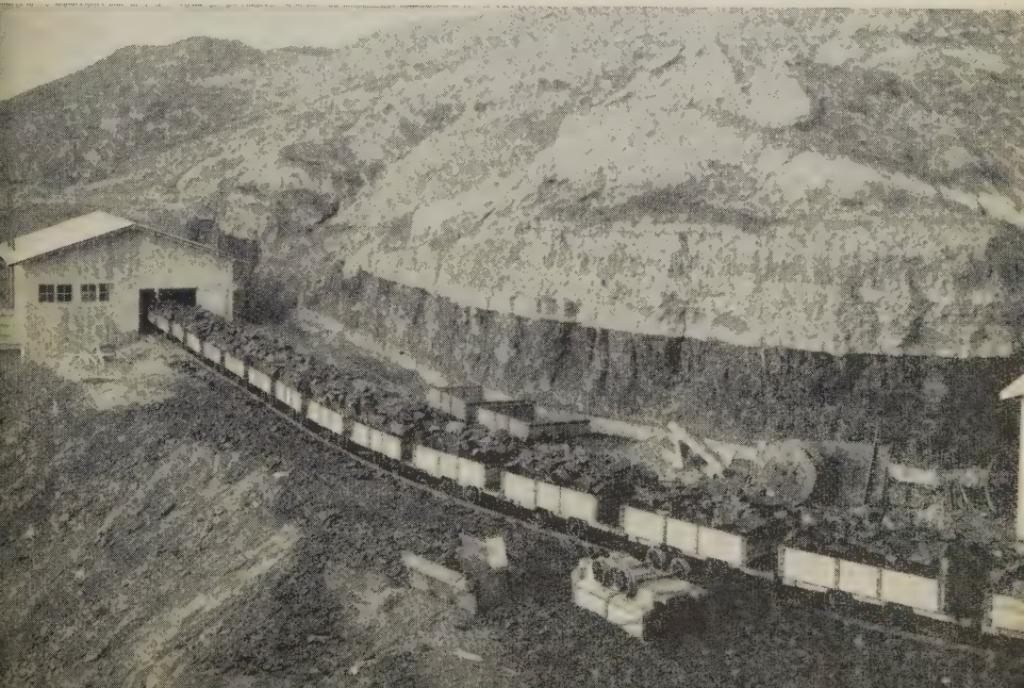
Fuels.—The fuel situation in Canada has always demanded the serious consideration of the authorities. The country is in a somewhat anomalous position in that large deposits of coal are located in the eastern and western provinces, but no coal is mined in Ontario and Quebec, where the greater number of Canadian manufacturing industries are located and denser populations exist. For that reason, coal must be brought into these central provinces, chiefly from the United States. Supplies of anthracite coal, formerly brought in from Great Britain in substantial amounts, have been practically cut off because of the difficulties in ocean shipping during the War. Production of coal in Canada totalled 17,859,057 tons in 1943 and 17,118,008 tons in 1944. Of the total output in 1944, 5,808,792 tons came from mines in Nova Scotia, 7,437,781 tons in Alberta, 2,134,248 tons in British Columbia, 1,390,155 tons in Saskatchewan, and 347,032 tons in New Brunswick.

Natural gas consumption in Canada was slightly greater in 1943 as compared with 1942 and for the first seven months of 1944 the consumption exceeded that of the same period in 1943. The Province of Alberta produces about 81.4 p.c. of the total for Canada. Ontario is the second largest producer and small quantities are also produced in New Brunswick and Saskatchewan.

Crude petroleum production in Canada from the Turner Valley in Alberta showed a decrease during the first seven months of 1944 as compared with the same period in 1943, but new wells drilled in 1943 in the Fort Norman area of the Northwest Territories have afforded an important and increased supply of petroleum products for transportation and other purposes to the remote and growing population of northwestern Canada. Crude oil from these wells is also transported by pipeline to a refinery at Whitehorse, Yukon. This latter development was also a direct result of the War. Some crude petroleum is produced in Ontario and, in minor quantities, in New Brunswick.

Coal Mining by the Open-Cut Method in Alberta.—The seams are near the surface and are easily 'stripped' or worked. The exposed seam is seen behind the line of trucks.

Courtesy, Canadian National Railways





Two Basic but Widely Different Resources—Oil and Wheat—in the North Turner Valley,

Courtesy,
Department of
Mines and
Resources

Non-Metallics.—Not only in metals and fuels has Canada played an important part in the war effort, but the asbestos mines, located in the Eastern Townships of Quebec, are among the most important in the world and have been running at high speed. Among other non-metallic minerals of importance are mica, feldspar, gypsum, salt, pyrites, sodium sulphate, sulphur, graphite, brucite and magnesitic dolomite. A barite property, opened up in Nova Scotia about three years ago, has continued to expand, and has found markets in the oil-producing countries bordering on the Caribbean Sea, where it is used in oil drilling operations.

The total value of mineral production in Canada in 1944 is considerably less than in the previous year because of a reduction in the output of gold and because of a shortage of labour in the production of other minerals. With the coming of peace there is no doubt that Canada's mining industry will serve as a source of direct employment, and indirectly will furnish work to many industries from which the mines must purchase supplies.

Mineral Production of Canada, 1943 and 1944

Item	1943		1944 ¹	
	Quantity	Value	Quantity	Value
METALLICS				
Antimony.....	lb.	1,114,166	189,408	1,937,900
Arsenic (As ₂ O ₃).....	"	3,153,538	254,009	2,543,000
Bismuth.....	"	407,597	562,484	123,800
Cadmium.....	"	786,611	904,602	547,944
Chromite.....	ton	29,595	919,878	27,720
Cobalt.....	lb.	175,961	191,407	38,452
Copper.....	"	575,190,132	67,170,601	547,943,586
Gold.....	fine oz.	3,651,301	140,575,088	2,885,474
Iron ore.....	ton	641,294	2,032,240	549,922
Lead.....	lb.	444,060,769	16,670,041	301,073,919
Magnesium.....	"	7,153,974	2,074,652	10,659,335
Manganese ore.....	ton	48	985	Nil
Mercury.....	lb.	1,690,240	4,559,200	735,856
Molybdenite concentrates.....	"	784,715	549,515	2,062,700
Nickel.....	"	288,018,615	71,675,322	275,213,106
Palladium, rhodium, iridium, etc.	fine oz.	126,004	5,233,068	45,100
Platinum.....	"	219,713	8,458,951	155,700
Selenium.....	lb.	374,013	654,523	345,000
Silver.....	fine oz.	17,344,569	7,849,111	13,586,502

¹ Preliminary estimate.

Mineral Production of Canada, 1943 and 1944—concluded

Item	1943		1944 ¹	
	Quantity	Value	Quantity	Value
			\$	\$
Tellurium.....	lb.	8,600	15,050	56,900
Thallium.....	"	Nil	—	128
Tin.....	"	776,937	450,623	516,600
Titanium ore.....	ton	69,437	308,290	33,963
Tungsten concentrates.....	lb.	1,508,621	1,083,538	63,152
Zinc.....	"	610,754,354	24,430,174	561,072,538
TOTALS, METALLICS.....		356,812,760		307,336,217
 NON-METALLICS				
FUELS				
Coal.....	ton	17,859,057	62,877,549	17,118,008
Natural gas.....	M cu. ft.	44,198,005	11,813,629	45,956,800
Peat.....	ton	782	7,000	624
Petroleum.....	bbl.	9,601,934	15,708,702	10,071,100
TOTALS, FUELS.....		90,406,880		99,375,445
 OTHER NON-METALLICS				
Asbestos.....	ton	467,196	23,169,505	372,973
Barite.....	"	24,474	279,253	114,387
Corundum.....	"	Nil	—	16,000
Diatomite.....	"	98	3,331	87
Feldspar.....	"	23,858	237,771	20,494
Fluorspar.....	"	11,210	318,424	6,336
Graphite.....	"	1,903	197,431	1,565
Grindstones (incl. pulpstones).....	"	164	6,225	225
Gypsum.....	"	446,848	1,381,468	510,224
Iron oxides (ochre).....	"	8,401	135,893	10,335
Magnesitic dolomite and brucite.....	"	2	1,260,056	2
Mica.....	lb.	8,050,692	553,856	6,087,627
Mineral waters.....	gal.	139,611	67,541	139,000
Nepheline syenite.....	"	2	292,010	2
Peat moss.....	ton	64,360	1,461,422	63,149
Phosphate.....	"	1,451	18,385	389
Quartz.....	"	1,776,749	1,608,448	1,637,876
Salt.....	"	687,686	4,379,378	716,875
Silica brick.....	M	4,165	295,505	3,750
Soapstone ³	"	14,204	135,469	2
Sodium carbonate.....	ton	468	5,148	44
Sodium sulphate.....	"	107,121	1,025,151	98,188
Sulphur.....	"	257,515	1,753,425	248,465
Talc.....	"	11,959	131,216	14,000
Volcanic dust.....	"	50	257	Nil
TOTALS, OTHER NON-METALLICS.		38,716,568		34,201,090
 CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS				
Clay products, brick, tile, sewer pipe, etc.....	"	6,608,193	2	6,915,475
Cement.....	bbl.	7,302,289	11,599,033	7,182,462
Lime.....	ton	907,768	6,832,992	893,120
Sand and gravel.....	"	25,744,469	9,005,857	24,921,950
Stone.....	"	7,222,950	7,964,179	6,360,775
TOTALS, CLAY PRODUCTS, ETC.....		42,010,254		41,347,711
Grand Totals.....		527,946,462		482,260,463

¹ Preliminary estimate.² Not available.³ Includes some talc.

Mineral Production of Canada, by Provinces, 1942-44

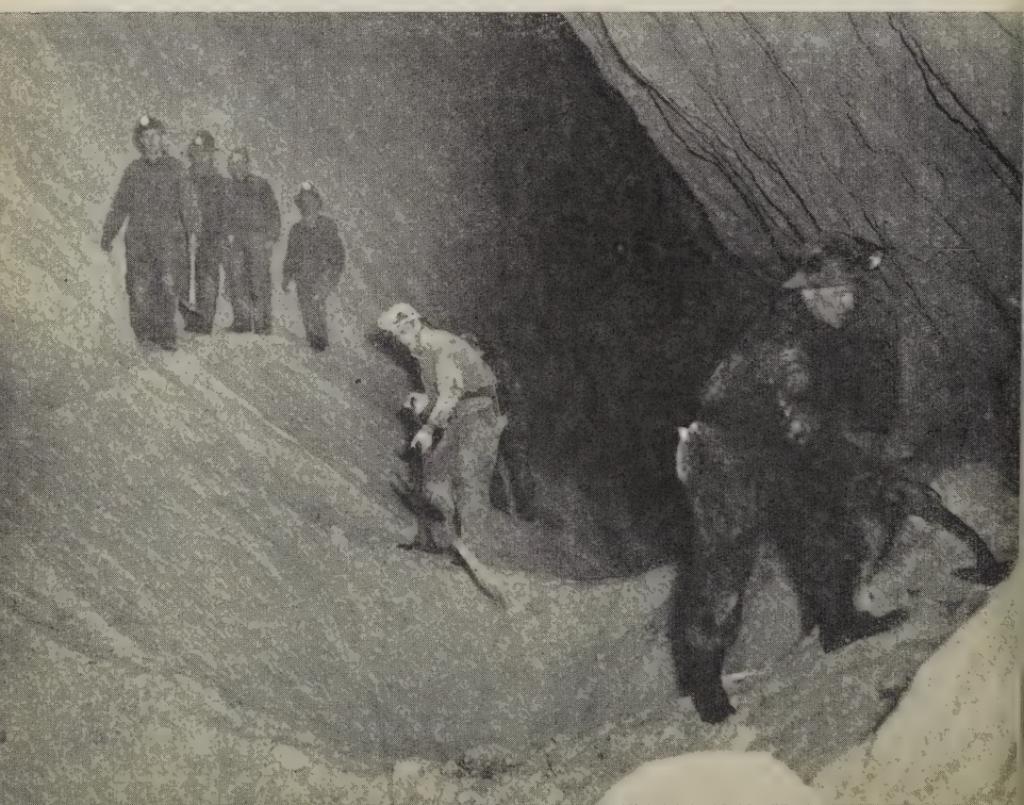
Province or Territory	1942		1943		1944 ¹	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
			\$	\$	\$	
Nova Scotia.....	32,783,165	5.8	29,979,837	5.7	35,313,438	7.3
New Brunswick.....	3,609,158	0.6	3,676,834	0.7	3,428,966	0.7
Quebec.....	104,300,010	18.4	101,610,678	19.2	87,416,810	18.1
Ontario.....	259,114,946	45.7	231,603,170	43.9	209,349,689	43.4
Manitoba.....	14,345,046	2.5	13,412,266	2.5	13,728,126	2.9
Saskatchewan.....	20,578,749	3.6	26,735,984	5.1	22,224,032	4.6
Alberta.....	47,159,831	8.4	48,179,495	9.1	51,376,959	10.7
British Columbia.....	77,247,932	13.7	68,442,386	13.0	56,355,308	11.7
Yukon.....	3,453,568	0.6	2,679,993	0.5	954,850	0.2
Northwest Territories.....	3,976,267	0.7	1,625,819	0.3	2,112,285	0.4
Canada.....	566,768,672	100.0	527,946,462	100.0	482,260,463	100.0

¹ Preliminary estimate.

The reduction in 1944 was principally in the metals group, which showed a decrease of 14 p.c. from the 1943 total. On the other hand, the fuels group increased 10 p.c., mainly accounted for by the increased price for coal. Many of the industrial minerals showed increases over 1943, but such increases were not large enough to offset the drop in asbestos. Structural materials showed little over-all change.

Malagash Salt Mine, N.S.—This deposit is more than 100 miles long and 400 feet wide and is the largest salt mine in the Northern Hemisphere. Salt deposits are fortunately very plentiful in Canada. It is an important raw material for the chemical industry apart from its use as a condiment.

National Film Board



CHAPTER VIII

Water Powers

Canada has a wealth of water-power resources favourably distributed throughout the country in relation to other natural resources, to centres of population and to transportation facilities. Since the turn of the present century, water-power development has had a profound effect upon the national economy. This development, increasing from a total of 173,000 h.p. in 1900 to more than 10,283,000 h.p. in 1944, has been the mainspring of the great industrial expansion of the past four decades and has brought to the greater part of the population the amenities of electric lighting and other electric services. In the past five years of war, water power has been fundamental to Canada's vast war production program. Aluminum production alone, which has increased sixfold since 1939, has taken latterly one-quarter of all electric energy generated in the Dominion and power has performed a vital role in virtually every phase of the war effort. In the post-war period, Canada's resources of developed and undeveloped water power will be of strategic assistance in meeting the problems of reconstruction and rehabilitation.

Available and Developed Water Power, by Provinces, Jan. 1, 1945

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	
Prince Edward Island.....	h.p. 3,000	h.p. 5,300	h.p. 2,617
Nova Scotia.....	20,800	128,300	133,384
New Brunswick.....	68,600	169,100	133,347
Quebec.....	8,459,000	13,064,000	5,848,022
Ontario.....	5,330,000	6,940,000	2,673,443
Manitoba.....	3,309,000	5,344,500	422,825
Saskatchewan.....	542,000	1,082,000	90,835
Alberta.....	390,000	1,049,500	94,997
British Columbia.....	7,023,000	10,998,000	864,024
Yukon and Northwest Territories.....	294,000	731,000	19,719
Canada.....	25,439,400	39,511,700	10,283,213

As it has proven sound commercial practice to install hydraulic power equipment averaging 30 p.c. in excess of the six-month flow power, it is estimated that Canada's presently recorded water power provides for an installation of more than 51,350,000 h.p. That is, the present development represents only 20 p.c. of the possible development.

Provincial Distribution of Water Power.—The water powers of the Maritime Provinces, while small in comparison with the sites in the other provinces, constitute a valuable economic resource, the development of which is supplemented by power from abundant indigenous coal supplies. Quebec, with large resources of water power, has achieved a remarkable development; the present installation in the Province represents almost 57 p.c. of the total for Canada. Almost 84 p.c. of this total installation is operated by six large central station organizations. The Province of Ontario has extensive water-power resources. The Hydro-Electric Power Commission of Ontario, province-wide in its field, operates plants aggregating

69 p.c. of the total hydraulic installation of the Province and serves more than 900 municipalities. A notable feature of electric distribution by the Commission is the operation of more than 20,000 miles of rural lines, serving some 131,000 consumers. Of the Prairie Provinces, Manitoba has the greatest power resources and the greatest power development: 70 p.c. of the total hydraulic development of the three provinces is installed on the Winnipeg River to serve the city of Winnipeg and adjacent municipalities and more than 150 cities, towns and villages in southern Manitoba over the 1,825-mile transmission network of the Manitoba Power Commission. In the districts containing the least water power—southern portions of Alberta and Saskatchewan—there are large fuel resources. British Columbia, traversed by three distinct mountain ranges, ranks second in available power resources and in hydraulic development is exceeded in Quebec and Ontario only. The water powers of Yukon and the Northwest Territories, while considerable, are so remote from markets as to limit their present commercial development to local mining uses.

Hydro-Electric Construction during 1944.—New hydro-electric installations during 1944 totalled 68,700 h.p. This is a very small increase when compared with the average of 481,000 h.p. for the previous four years and indicates that the insistent demand for more and more power for war production has passed its peak and the transition period from war to peace is already being experienced although hostilities have not yet ceased.

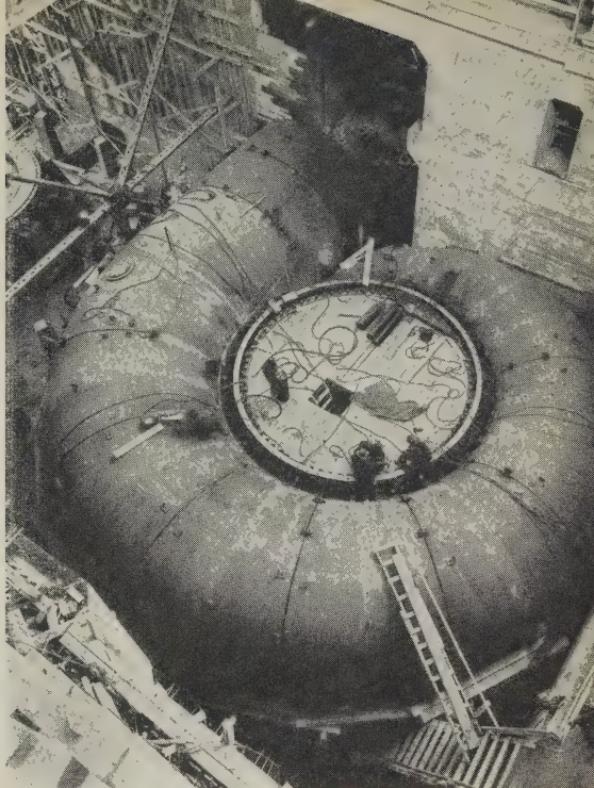
The outstanding development of the year was the completion, in the Province of British Columbia, of the Brilliant development on the Kootenay River by the West Kootenay Power and Light Company (Consolidated Mining and Smelting Company). Two turbines of 34,000 h.p. each were installed and placed in operation; provision was made for the installation of two similar units later. This is the

An Unharnessed Power Site at Calumet Falls, Que.—Canada still has many such virgin sites, especially in the more northern areas. Over half the available resources and three-quarters of the developed water power are within the Provinces of Ontario and Quebec.

Department of Mines and Resources



Installing a Spiral Casing for One of the Eight 100,000-h.p. Hydraulic Turbines at Shipshaw Power Plant.—This 115-ton casing is 49 feet 6 inches in diameter.



Courtesy, Canadian General Electric Company

company's fifth station on the Kootenay River and its full installation in conjunction with those of the other four plants will provide a total of 414,000 h.p. and will result in the complete utilization of the power possibilities of the river.

The Hydro-Electric Power Commission of Ontario undertook the extension of its Alexander Landing Station on the Nipigon River, involving the addition of a 19,000-h.p. unit. This work, which is expected to be completed about June, 1945, will bring the total capacity of this Station to 73,000 h.p. In conjunction with the 75,000-h.p. station at Cameron Falls on the same river, a total of 148,000 h.p. will be available for the needs of the Commission's Thunder Bay System which serves the cities of Port Arthur and Fort William, the Geraldton gold-mining field and the newly established iron-mining operations at Steep Rock Lake.

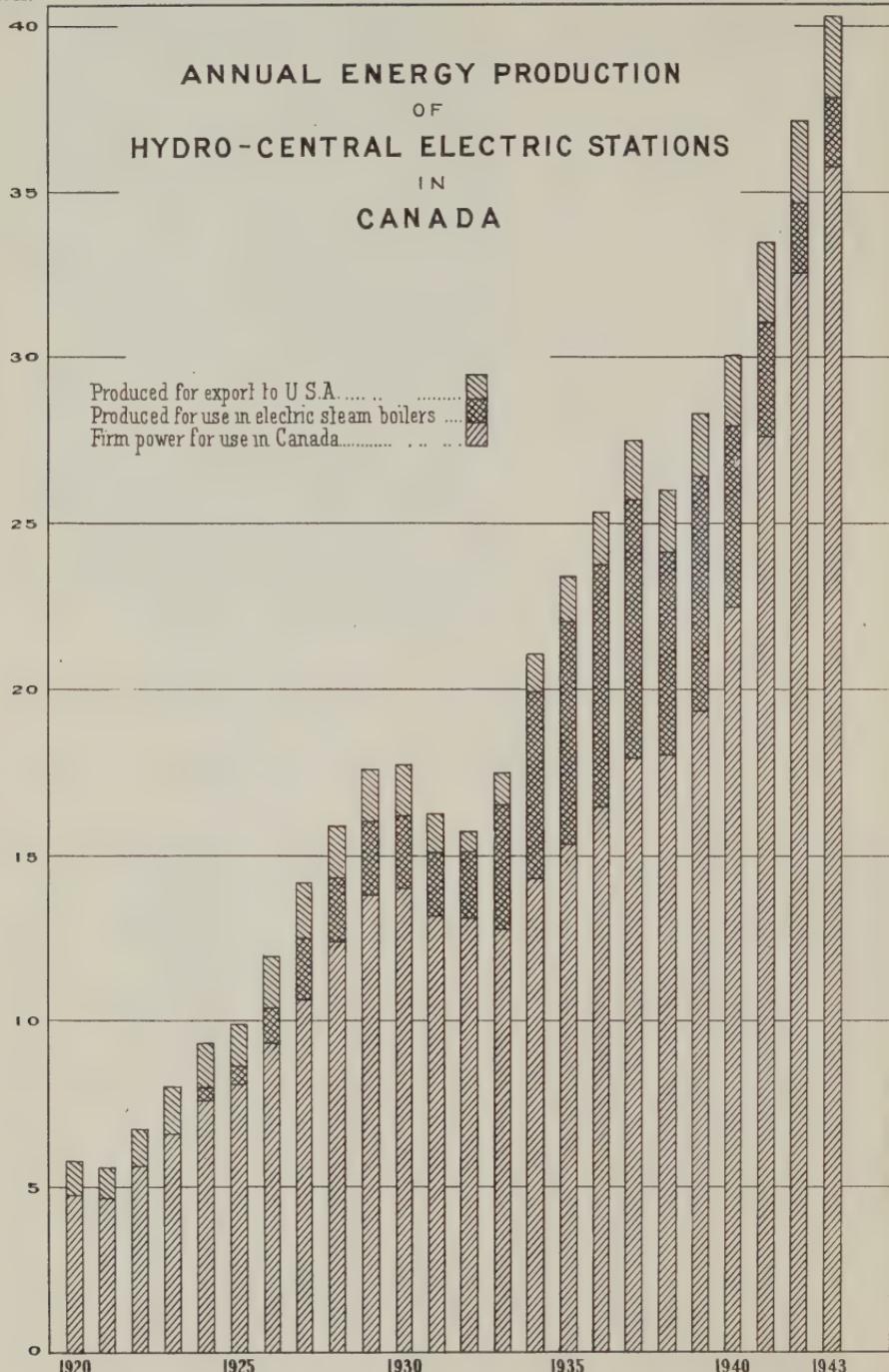
The Pembroke Electric Light Company, which serves the town of Pembroke, Ontario, with power from a power station on the Black River, in the Province of Quebec, replaced two turbines of 900 h.p. each with a single turbine of 2,500 h.p. capacity.

Central Electric Stations

Over 90 p.c. of all developed water power in Canada is developed by central electric stations and, although there are 294 that derive their power entirely from fuels and 43 hydraulic stations that also have thermal auxiliary equipment, 98 p.c. of all electricity generated for sale is produced by water power.

The production of electricity by central electric stations amounted to 5,500,000,000 kwh. in 1919, the first year for which such data are available. Six years later it was almost doubled, by 1928 it had more than trebled, and by 1930 it amounted to 18,000,000,000 kwh. With continued depression in manufacturing industries the output started to decline late in 1930 and continued into 1933, but from 1933 to 1943

00,000,000
KWH.



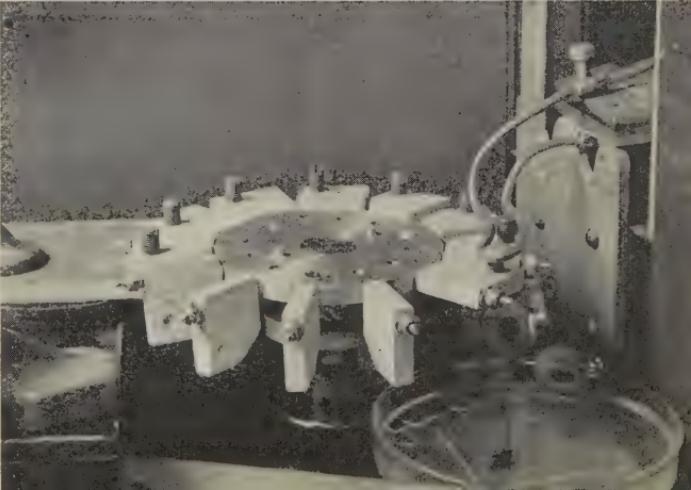
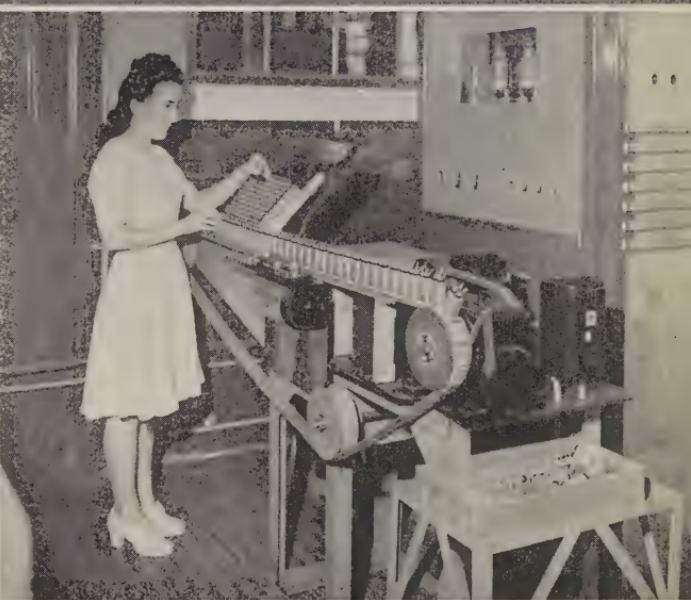
Electronics in Industry

During the past few years electronic devices, many of them still secret, have changed the entire nature of warfare. Some of them are already being applied to industry with results little short of amazing. The three operations illustrated on this page are typical of many that will carry far-reaching benefits to mankind in the post-war world.

Top: Normally the oven-baking of paint on metal surfaces is a time-consuming process and many operations are involved. By the electronic method the metal tubes or other surfaces are passed through a long coil carrying the electronic power. Heat is thus induced in the shells and baking of the paint is reduced from about one hour to as short a time as 15 seconds.

Centre: Lids being soldered on small oil containers to provide a solid oil-tight unit, thus what was formerly a manual operation is now speeded up so that 2,500 units per hour are delivered. The cans on the conveyor belt are passed between two inductors from a radio-frequency generator and soldering is thus automatically accomplished.

Bottom: A piece of war equipment required a set screw with its slotted end hardened to permit of repeated removal with a screw-driver without damage. The problem was solved as shown. The small turntable conveys the set screw through the hair-pin shaped coil carrying radio-frequency currents. This heats the slotted end of the set screw to the required temperature. The set screw then automatically drops into the water-quenching bath: 2,700 set screws can be hardened per hour.



*Courtesy, RCA Victor
Company Limited,
Montreal*

there was an almost continuous succession of increases each average month as shown in the table below. The daily rate of production reached a peak in November, 1943, and from that point has shown an almost continuous decline until, in August, 1944, it had dropped 8·4 p.c.

The demands for primary power for war requirements have greatly increased the primary power production, partly by switching secondary power to primary power uses and partly by increases in total output. The electro-chemical and electro-metallurgical industries showed large and rapid increases in consumption of electric power whereas the pulp and paper industry showed decreases mainly through transfer from electric to coal boilers. This greatly increased production of electricity resulted from new developments, additional equipment in existing plants, and by increased diversion of water for power purposes at Niagara Falls.

The rated capacity of electric motors in manufacturing industries in Canada in 1942 was 82·0 p.c. of the total capacity of all power equipment in these industries, the increase from 61·3 p.c. in 1923 being almost continuous. In the mining industries this conversion to electric drive has been even greater, growing from 57·3 p.c. in 1923 to 78·4 p.c. in 1942. In 1942, 84 p.c. of these electric motors in manufacturing industries and 85 p.c. in mining industries were driven by power produced in central stations. Mechanical power, particularly electric motors, has been increasing in manufacturing industries during the past decade much more rapidly than the number of employees.

Average Monthly Output of Central Electric Stations, 1927-44

Year	From Water	From Fuel	Total	Year	From Water	From Fuel	Total
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1927.....	1,193,481	18,944	1,212,425	1936.....	2,078,739	37,452	2,116,191
1928.....	1,340,292	21,192	1,361,484	1937.....	2,256,779	41,882	2,298,661
1929.....	1,441,203	27,622	1,468,825	1938.....	2,130,006	37,728	2,167,734
1930.....	1,463,330	25,230	1,488,560	1939.....	2,321,815	40,811	2,362,626
1931.....	1,339,907	26,071	1,365,978	1940.....	2,460,466	46,222	2,506,688
1932.....	1,296,360	25,845	1,322,205	1941.....	2,731,880	55,233	2,787,113
1933.....	1,436,486	26,150	1,462,636	1942.....	3,037,823	62,109	3,099,932
1934.....	1,733,810	29,484	1,763,294	1943.....	3,299,998	64,807	3,364,805
1935.....	1,917,958	32,410	1,950,368	1944 ¹	3,298,065	80,127	3,378,192

¹ Eight-month average.

Electricity, principally hydro-electric energy, is displacing coal and oil to heat furnaces and ovens, and is doing enormous quantities of work in electrolytic refining of metals, production of fertilizers, metal plating, and so forth.

Investments in central electric stations for 1942 amounted to \$1,747,891,798, which was larger than for any manufacturing industry; revenues amounted to \$203,835,365 and 1,803,708 domestic customers were served, representing approximately 60 p.c. of all families in Canada, both urban and rural.

Electric energy is exported from Canada only under licence and an export tax of 0·03 cents per kwh. is levied. Exports have shown a steady increase over the past decade and amounted to 2,585,311,000 kwh. in 1944.

CHAPTER IX

Manufactures

The chief forward movement in Canadian manufactures has been the result of three great influences: first, the opening up of the West, at the beginning of the present century which greatly increased the demand for manufactured goods of all kinds and especially construction materials; secondly, the War of 1914-18 which left a permanent imprint upon the variety and efficiency of Canadian plants; and thirdly, the present war.

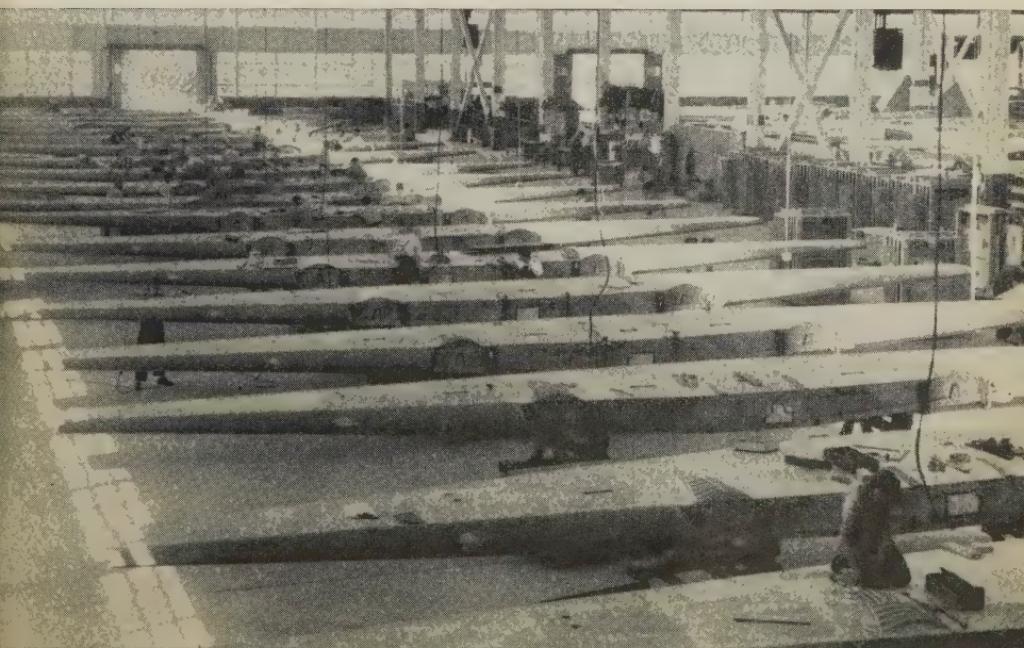
To-day, the manufacturing industries of Canada stand on the threshold of a new era in their development. The situation created as a result of Canada's strategic position as a source of food supply and armaments, has had far-reaching effects on the magnitude and diversification of Canadian manufacturing production and Canadian manufacturers have risen to the demands made upon them with marked success.

The achievement of the manufacturing industries of Canada in producing the huge quantities of equipment and supplies needed for war purposes, in addition to supplying the greatly expanded demands of the civilian population, is best illustrated by a comparison of their 1943 operations with those for 1939. In this period the number of employees increased by 92 p.c., with an increase of 160 p.c. in the salaries and wages paid, while the gross value of production was 140 p.c. higher: the physical volume of production was nearly doubled.

Following the chart on p. 123, a short review is given of some of the groups of industries that have felt the increased demands occasioned by the War.

Wings for Mosquito Bombers.—These wings are made almost entirely of plywood and their construction calls for great skill and accuracy.

Courtesy, Massey-Harris Co. Ltd.



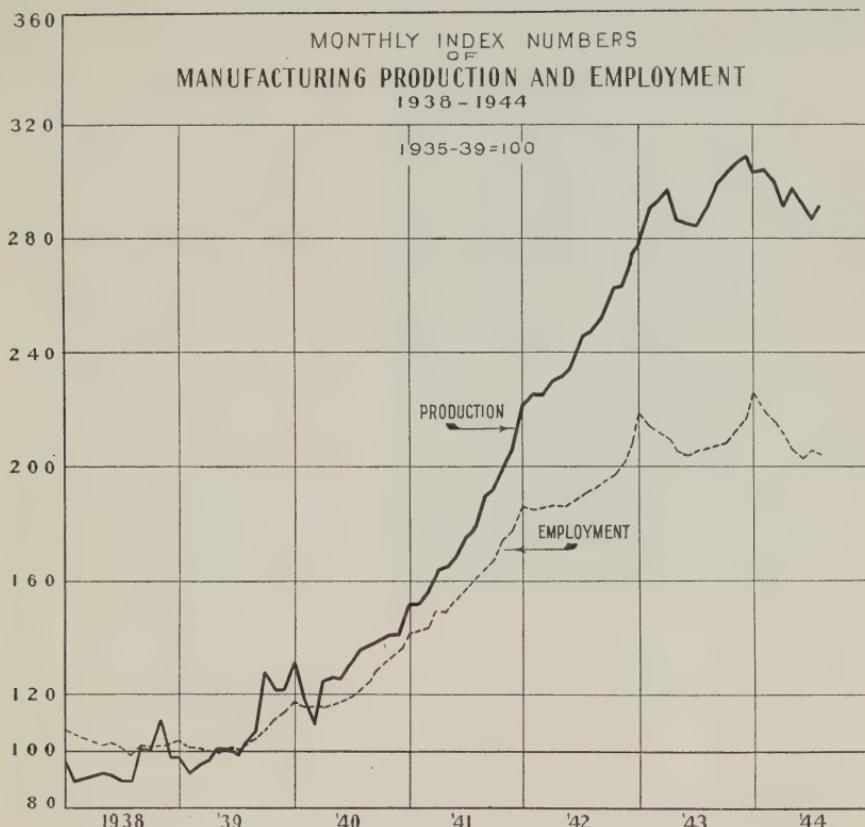
Summary of Statistics of Manufactures, 1870-1943

Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products ¹	Gross Value of Products
		No.	\$	No.	\$	\$	\$
1870.	41,259	77,964,020	187,942	40,851,009	124,907,846	96,709,927	221,617,773
1880.	19,722	165,302,623	254,935	59,429,002	179,918,593	129,757,475	309,676,068
1890.	75,964	353,213,000	369,595	100,415,350	250,759,292	219,088,594	469,847,886
1900 ² .	14,650	446,196,487	339,173	113,249,350	266,527,858	214,525,517	481,053,375
1910 ² .	19,218	1,247,583,609	515,203	241,008,416	601,509,018	564,466,621	1,165,975,639
1920 ² .	22,157	2,914,518,693	591,753	711,080,430	2,083,579,571	1,609,168,808	3,692,748,379
1929	22,216	4,004,892,009	666,531	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1933.	23,780	3,279,259,838	468,658	436,247,824	967,788,928	919,671,181	1,954,075,785
1935.	24,034	3,210,403,127	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936.	24,202	3,271,263,531	504,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937.	24,834	3,465,227,831	660,451	721,727,037	2,006,926,787	1,508,924,867	3,625,459,500
1939.	24,805	3,647,024,449	658,114	737,811,153	1,836,159,375	1,531,051,901	3,474,783,528
1940.	25,513,4,095,716,836	762,244	920,872,865	2,449,721,903	1,942,471,238	4,529,173,314	
1941.	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,129
1942..	27,862	5,488,785,545	1,152,091	1,682,804,842	4,037,102,725	3,309,973,758	7,553,794,972
1943..	4		1,262,000 ³	1,918,589,000 ³	4,486,144,000 ³	3,678,083,000 ³	8,393,163,000 ³

DETAILS BY PROVINCES AND PURPOSE GROUPS, 1942

P.E.I...	243	3,367,368	1,261	842,061	4,789,315	1,973,540	6,855,344
N.S....	1,332	152,668,789	31,318	41,273,942	85,193,680	63,615,890	155,931,264
N.B....	867	105,056,835	22,182	26,546,806	64,891,227	53,920,484	123,839,475
Que....	9,342	1,883,353,668	399,017	536,329,170	1,193,445,432	1,059,873,943	2,333,303,012
Ont....	10,711	2,632,519,471	542,958	840,783,705	2,056,746,983	1,671,130,314	3,817,396,404
Man....	1,287	175,902,477	37,519	51,605,139	159,248,309	94,856,679	259,554,350
Sask....	966	45,013,677	9,801	12,543,065	84,208,201	33,933,836	120,250,733
Alta....	1,115	101,401,133	18,397	23,992,613	117,617,500	57,479,536	178,103,011
B.C....	1,990	388,649,300	89,570	148,782,063	270,823,072	272,926,065	558,137,606
V Yukon & N.W.T.	9	852,827	68	106,278	139,006	263,471	417,773
Totals.	27,862	5,488,785,545	1,152,091	1,682,804,842	4,037,102,725	3,309,973,758	7,553,794,972
Producers materials							
Food...	8,769	2,289,297,436	347,559	516,634,897	1,273,159,717	1,072,404,201	2,477,577,100
Industrial equipment	8,492	567,240,164	119,749	143,710,556	931,767,514	336,867,503	1,287,339,635
Vehicles and vessels							
Clothing	2,584	978,137,068	195,006	311,065,219	616,802,683	670,817,677	1,315,623,021
Drink and tobacco	400	564,753,604	168,473	306,339,734	505,568,046	486,988,416	1,003,563,576
Books and stationery	2,575	243,759,650	124,316	134,956,209	281,402,163	213,498,877	497,675,551
House furnishings and equipment							
Personal utilities	676	235,092,943	28,998	38,848,227	94,538,408	138,301,723	236,292,352
Miscellaneous	2,538	155,721,790	45,235	67,403,322	68,438,815	119,634,523	190,289,162

¹ For and since 1929 the figures for the net value of production represent the gross value less the cost of materials, fuel and electricity. Prior to this, only the cost of materials is deducted. ²Includes all establishments employing five hands or over. ³From 1920 to 1943 the figures include all establishments irrespective of the number of employees, but exclude construction, and custom and repair work. ⁴ Not available. ⁵ Estimated.



Food Industries.—Leading food industries, with gross value of production in 1942, were as follows: slaughtering and meat packing \$369,047,175; butter and cheese \$210,148,057; flour and feed mills \$159,463,671; bread and other bakery products \$104,089,254; biscuits and confectionery \$76,869,436; fruit and vegetable preparations \$73,569,273; miscellaneous foods \$71,364,374; fish curing and packing \$59,477,038; sugar \$45,969,711; prepared stock and poultry feeds \$26,751,325; and condensed milk \$25,950,941. Each of these industries showed a substantial increase over 1939.

Slaughtering and Meat Packing.—Slaughtering and meat packing is the leading industry of the food group. In 1942 its output increased by 99 p.c. over 1939; it furnished employment to 17,397 persons who were paid \$26,695,879 in salaries and wages. About \$263,000,000 was paid out by packers for live stock. Of the 146 establishments in 1941, 42 contributed 91 p.c. of the total output, while 7 of the largest plants had an average production of about \$19,000,000. During the war years this industry has been called upon to supply ever increasing quantities of products to Great Britain.

Dairy Products.—Manufacturing statistics of dairy production are given in the chapter on Agriculture at pp. 86-90.

Canned Foods.—The development in the production of canned foods in Canada has shown remarkable expansion since the beginning of the twentieth century. In 1900



Cheese on the Ripening Room Shelves.

National Film Board

the total value did not exceed \$8,250,000 but by 1939 it had increased to \$69,792,697. The War, however, is bringing about many changes in the canning industry. The canning of many products, formerly with large packs, has been prohibited and the packs of others strictly curtailed. In spite of unavoidable restrictions and other difficulties under which the canning industries have had to carry on, the volume of production in 1942 advanced 28 p.c. over the pre-war high mark attained in 1939.

Principal Foods Canned in Canada, 1939 (Last Pre-War Year) Compared with 1942

Product	1939		1942		
	Quantity	Value	Quantity	Value	
Fish.....	lb.	108,893,332	15,478,961	198,339,168	31,943,416
Fruits.....	"	116,500,115	7,769,005	60,733,000	6,057,333
Vegetables.....	"	251,432,000	14,526,671	329,100,000	22,690,913
Meats.....	"	7,887,228	1,743,227	25,451,219	6,933,336
Soups.....	"	96,660,000	9,259,222	81,735,000	8,850,693
Other foods.....	"	—	9,113,941	—	12,204,122
Concentrated milk.....	cwt.	1,660,425	11,575,971	2,644,000	24,487,982
Totals.....		—	69,466,998	—	113,167,795

Flour Milling.—The flour-milling industry has a tremendous capacity to produce whatever flour may be needed under present war conditions. The present maximum daily capacity of the mills is 88,081 bbl. per day of 24 hours, or an annual capacity of over 32,000,000 bbl. The output of wheat flour during the 1943-44 crop year amounted to 24,288,877 bbl., an increase of 31 p.c. over the previous ten-year average.

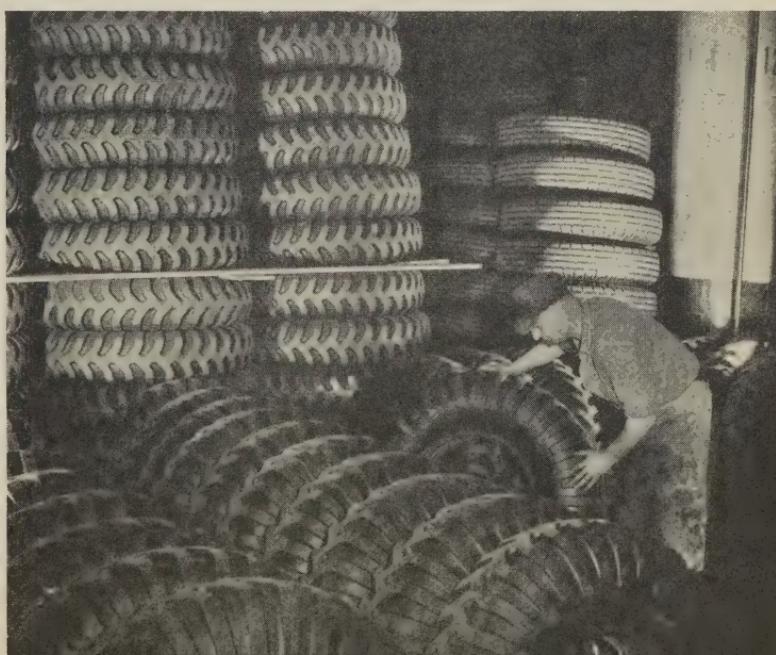
Textile Industries.—The need for clothing and equipment for Canada's rapidly expanding Navy, Army and Air Force placed a heavy burden upon the textile industries. These industries are, to a high degree, centralized in the Provinces of Quebec and Ontario. In 1942 the gross value of production was \$793,304,750, an increase of 102 p.c. over 1939, employment was given to 165,478 persons, and \$185,731,313 was paid out in salaries and wages. Of all females employed in the manufacturing industries, 32 p.c. were in the textile group, compared with 43 p.c. in 1939.

The variety of individual industries included with those of the textile group is representative of practically all stages of manufacturing necessary to convert the various raw materials into products ready for purchase by the public. Men's factory clothing led the group in 1942 with a gross value of production amounting to \$149,563,457; this was an increase of 111 p.c. over 1939. Cotton yarn and cloth came a close second with a gross production of \$141,899,520, an increase of 102 p.c. Other leading industries, in order named, were: women's factory clothing, hosiery and knitted goods, woollen cloth, and silk and artificial silk, which showed increases of 95 p.c., 39 p.c., 155 p.c., and 89 p.c., respectively. A new development in the textile field is the use of artificial silk yarns in the production of tire cord and tire fabrics.

Synthetic Rubber.—One year after Japan's attack on Pearl Harbour, rubber supplies were so low and civilian curtailments so severe, that every ounce consumed was going into essential manufacture, and it was no longer possible to distinguish between war and necessary civilian requirements. By the end of 1942, only 10 p.c. of the necessary meagre consumption was being supplied by continuing imports from Ceylon, South America, Central America and Africa. The balance of the requirements was being drawn from stockpiles gathered before December, 1941, and closely conserved by the United Nations since then.

As a result of the measures adopted by the Rubber Control, consumption of rubber for civilian purposes has been reduced to a mere 10 p.c. of what it was before

Synthetic Rubber
Tires Awaiting
Shipment to the
Armed Forces.
—Hundreds of
these tires are
now rolling off
the production
lines.



the War. Out of this 10 p.c., tires have been provided for essential vehicles, but since Pearl Harbour no tires have been made, or will be made, for the non-essential car. Much of the saving of the rubber supply has been achieved by the use of substitutes and reclaim in the manufacture of hundreds of essential articles, including military tires and other war supplies. This progressive reduction in the use of rubber is still going forward. Month after month technical experts are devising new formulae for substitutions and as soon as these have been tested their adoption is made compulsory. Early in 1943 some war-grade tires from entirely reclaim material were manufactured while at the present time tires from synthetic rubber are also being made. These are being released under rationing regulations for use on essential vehicles only.

As a result of restrictions and substitutions, the conversion from crude to synthetic, in so far as this is technically feasible, has been achieved without unfavourable effect upon the war effort. The giant, Government-owned synthetic rubber plant at Sarnia, Ont., with an estimated capacity output of 34,000 tons of buna-S and 7,000 tons of butyl rubber per year, came into quantity production of buna-S during the latter months of 1943, although the total production was at first necessarily small. Synthetic rubber of Canadian manufacture is therefore available now in considerable quantity for use in Canada, but only for direct war production and other essential purposes. It provides no relief for the shortage experienced by the ordinary civilian.

Iron and Steel Industries.—The three major corporations that constitute the core of the industry in Canada are self-contained in that they process iron and steel from the ore through to the semi-finished and finished articles. The activities of the Steel Company of Canada, Limited, cover a wide range of products. The main plant at Hamilton, Ont., has 3 blast furnaces, 13 open-hearths, 1 electric furnace, and rolling mills for making billets, bars, wire rods, sheets, plates and light shapes. Its capacity is about 1,100,000 net tons of ingots annually. In addition, it operates several works in Ontario and Quebec for the production of wire, fencing, nails, screws, bolts, nuts, forgings, pipe, horseshoes, etc. The Algoma Steel Corporation, Limited, has 5 blast furnaces, 12 open-hearths, and also rolling mills. Its capacity is about 720,000 tons of ingots yearly and its chief products are billets, rails and rail fastenings, carbon and alloy merchant bars, tinplate, black sheets, structural steel and sheet piling. It is Canada's chief producer of heavy structural shapes which are made in all standard sizes and forms. The Dominion Steel and Coal Corporation operates 4 blast furnaces and 16 steel furnaces with yearly ingot capacity of 750,000 tons. Its rolling mill makes billets, rails, rail fastenings, merchant bars, wire rods and plates and in other plants or plants of subsidiary companies it makes wire, fencing, nails and similar lines.

Canada has recently built 2 of the largest blast furnaces in the British Empire. Actual output in 1944 will be about 2,000,000 net tons compared with 846,418 tons in 1939.

Notable expansion has occurred in connection with alloy steels and steel plates. The production capacity and output of alloy steels has been multiplied six times, making this country practically independent in providing the types used in guns, armour plate and machine tools. Prior to the War, the Dominion Foundries and Steel, Limited, was the only maker of steel plates in Canada. In April, 1941, the new 112-inch mill of the Steel Company of Canada, Limited, came into operation just in time to provide much needed plates for the shipbuilding program and for tanks, guns and carriers. In March, 1942, the Dominion Steel and Coal Corporation Limited, reopened its plate mill in Nova Scotia, idle since the War of 1914-18. Output of steel plates is now nearly six times that of 1939.



Molten slag from huge lead furnaces cascades from one big metal pot to another, while the operator watches intently the flow from the furnace.

National Film Board

In addition to these larger concerns, there are 33 other steel makers which use electric or open-hearth furnaces to produce steel from pig-iron and scrap. In all, there are 135 steel furnaces in Canada, including 50 open-hearth units, 82 electric units and 3 converters.

Canada's steel production in 1944 will amount to about 3,000,000 tons or nearly double the best pre-war tonnage. At the beginning of 1940 the rated capacity of steel furnaces in the Dominion was 2,300,000 net tons, but new installations have raised this potential to 3,600,000 tons as at the end of September, 1944. Canada now is the fourth greatest steel producer among the United Nations, exceeded only by the United States, Russia and Great Britain.

In the secondary industries there has been tremendous expansion. Four years ago shipbuilding was practically inactive; at present there are 60,000 workers in 21 major and 65 smaller yards which, to date, have launched nearly 600 cargo, patrol and escort ships. The aircraft industry, which had fewer than 1,000 persons on the payroll before the War, now has 55,000 workers in main and sub-assembly plants, which in 1943 made about 80 'planes each week. The automobile industry was switched entirely to military vehicles, of which more than 550,000 have been produced to date. Guns and shells are being produced in large quantities, and the output of machine tools, cutting tools, gauges, jigs and fixtures has been stepped up enormously to meet the requirements of the war program. Production for the entire iron and steel industry in 1943 amounted to about \$2,400,000,000 which was almost four times the corresponding value for 1939.

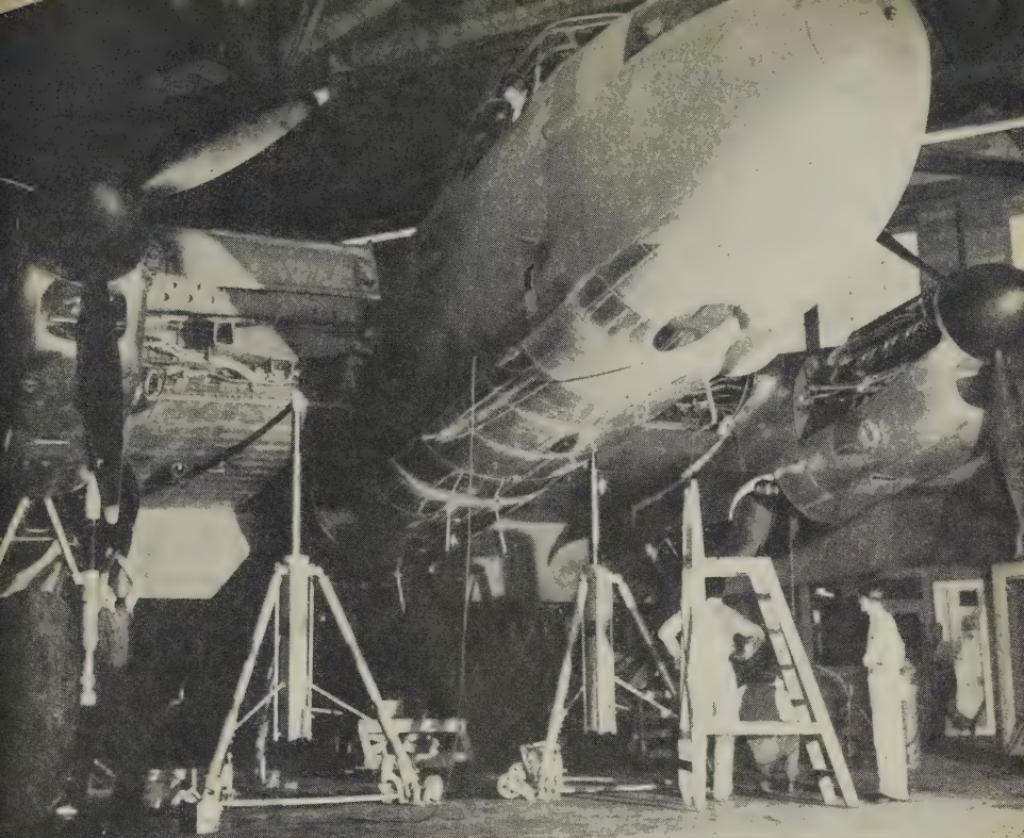


A Part of the Chemistry Laboratory at a Canadian University.—Here a new process has been developed for the manufacture of R.D.X., the world's most powerful military explosive.

National Film Board

Chemicals.—No phase of Canada's great industrial expansion has been more important or more spectacular than the explosives and chemicals program. Before the War the explosives industry in this country was occupied almost entirely on commercial requirements, and the chemicals industry was in no position to feed a large-scale munitions output. In October, 1939, the Chemicals and Explosives Branch of the Department of Munitions and Supply was set up to expand explosives production and to place the chemicals industry on a parallel course of development. Since that time in every part of the country great plants have sprung up. Fifty separate projects involving expenditures of \$160,000,000 have been undertaken, some being only extensions and others entirely new works, some for explosives, some for shell-filling, some for grenades, fuse powders, and pyrotechnics, but about half for special chemicals required in the over-all program. Only 9 of these projects are privately owned, the remainder being owned by the people of Canada. Production of special war chemicals and explosives, including the cost of shell-filling but excluding shell components, has increased from \$2,000,000 in 1940 to \$54,000,000 in 1941, to \$136,000,000 in 1942, and \$151,000,000 in 1943, according to figures released by the Wartime Information Board. Over 50,000 workers were employed in these plants.

With war production at such high levels, it is not surprising to note an increase of 51 p.c. in the value of production for the chemicals and allied products group of industries in 1943 as compared with 1942. Output in the former year totalled



Overhauling a Lancaster Bomber at Dorval, Que.

Courtesy, Canadian National Railways

\$761,000,000 as against \$502,000,000 in the latter. The bulk of the increase was, of course, in special chemicals and explosives, but most other lines showed substantial gains also. There was a decline of 4 p.c. in the coal-tar distillation industry.

Altogether there were 920 establishments in operation in 1943, representing an investment of \$560,000,000 and giving employment to a monthly average of 106,000 workers during the year. These firms paid out \$144,000,000 for salaries and wages, \$363,000,000 for materials for processing and \$17,000,000 for fuel and electricity. The increase in capital compared with 1942 was 19 p.c.; in employment, 14 p.c.; and in salaries and wages, 8 p.c.

Leading Individual Industries and Manufactures in Leading Cities

The incidence of the depression between 1930 and 1936 resulted in a rearrangement in the ranking of many industries. The suspension of capital expenditures greatly reduced the output of such industries as sawmills, electrical equipment, automobiles, primary iron and steel, etc., but under the impetus of war production these industries, which are engaged in producing the equipment needed by the Armed Forces, have again advanced to high positions.

The prosperity of most of the cities and towns in eastern Canada is intimately connected with their manufacturing industries; in the west the cities are more largely distributing centres, though manufactures are increasing there also.

Principal Statistics of Fifteen Leading Industries, 1942

Industry	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
						No.
Non-ferrous metal smelting and refining	16	356,052,965	21,162	37,340,556	285,987,513	447,617,199
Slaughtering and meat packing	148	96,787,894	17,397	26,695,879	310,446,760	369,047,175
Pulp and paper	105	655,598,196	38,007	69,656,393	135,970,437	337,390,484
Automobiles	6	143,442,197	24,403	52,281,941	239,544,621	324,772,681
Miscellaneous chemical products	194	250,666,479	64,900	88,185,249	120,541,882	251,665,872
Shipbuilding	79	125,048,259	50,132	92,188,814	73,325,151	242,138,127
Primary iron and steel	61	205,804,671	33,245	60,874,818	110,551,516	232,105,755
Butter and cheese	2,378	69,084,129	19,465	22,186,532	159,940,961	210,148,057
Electrical apparatus and supplies	225	143,178,182	39,676	61,799,069	92,799,017	208,872,781
Sawmills	5,277	112,119,272	47,765	49,562,069	98,774,251	192,919,077
Automobile supplies	101	76,029,153	21,010	37,011,834	112,061,012	184,499,499
Iron and steel products, miscellaneous	168	172,190,553	34,848	60,792,877	70,135,177	164,298,544
Brass and copper products	149	66,282,716	17,454	29,269,030	85,452,694	164,291,350
Petroleum products	52	84,162,248	5,920	11,507,252	121,924,256	163,716,515
Flour and feed mills	1,171	62,586,759	6,720	8,776,553	126,374,719	159,463,671
Totals, Fifteen Leading Industries						
1942	10,130	2,619,033,673	442,104	708,128,866	2,143,829,967	3,652,946,787
1941	9,285	2,243,304,628	335,816	490,465,000	1,741,074,785	2,891,048,111
Grand Totals, All Industries						
1942	27,862	5,488,785,545	1,152,091	1,682,804,842	4,037,102,725	7,553,794,972
1941	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	6,076,308,124
Percentages of Fifteen Leading Industries to all Industries, 1942	36.3	47.7	38.4	42.1	53.1	48.4

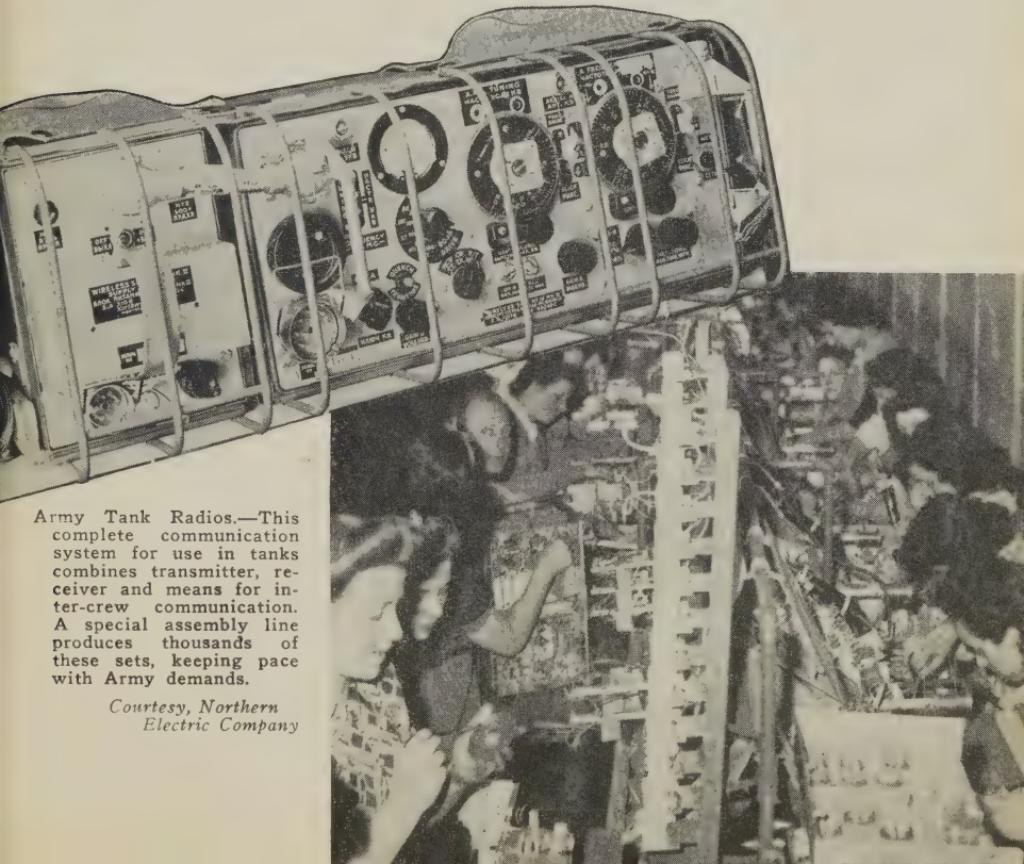
Cities and Towns with a Manufacturing Production of Over Twenty-Five Million Dollars in 1942

NOTE.—Statistics cannot be published for Arvida, Magog and Noranda, Quebec; Coniston, Copper Cliff, Oshawa, Port Colborne and Sudbury, Ontario; and Trail, British Columbia, since there are fewer than three concerns operating in these places.

Cities and Towns	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
						No.
Montreal, Que.	3,007	629,809,985	169,987	240,888,491	541,625,660	976,767,738
Toronto, Ont.	3,211	635,981,329	151,639	228,875,152	451,198,158	886,256,494
Windsor, Ont.	233	206,556,146	37,057	76,276,589	240,384,518	383,323,348
Hamilton, Ont.	482	273,212,977	50,744	85,111,817	166,078,144	347,752,196
Vancouver, B.C.	897	136,336,017	37,858	60,779,827	116,153,100	223,295,187
Winnipeg, Man.	692	113,297,399	27,768	38,191,886	88,897,218	150,332,353
Montreal East, Que.	11	41,272,359	2,981	4,914,287	66,625,403	91,066,697
St. Catharines, Ont.	95	45,905,049	10,800	18,572,948	52,785,849	89,542,709
New Toronto, Ont.	25	49,089,638	5,770	11,518,234	49,786,025	85,850,936
Kitchener, Ont.	154	44,464,199	11,950	16,611,411	46,706,114	84,878,828
Quebec, Que.	321	102,429,456	22,730	25,244,525	32,685,722	83,637,926
Welland, Ont.	54	54,095,003	9,803	16,628,147	40,336,393	80,304,156
London, Ont.	237	47,948,184	12,827	18,186,906	36,720,614	79,763,343
Edmonton, Alta.	194	26,051,547	6,221	8,739,710	51,641,504	68,714,458
North Vancouver, B.C.	24	20,118,670	11,324	21,992,408	18,953,919	64,417,423
Peterborough, Ont.	82	60,669,698	9,012	14,215,468	38,686,722	63,050,687
Calgary, Alta.	210	44,088,643	5,911	8,725,591	37,014,899	60,916,956
Brantford, Ont.	118	43,093,897	12,139	17,530,778	26,136,562	59,062,769
Sarnia, Ont.	44	22,304,998	4,280	7,546,384	36,905,951	58,503,317

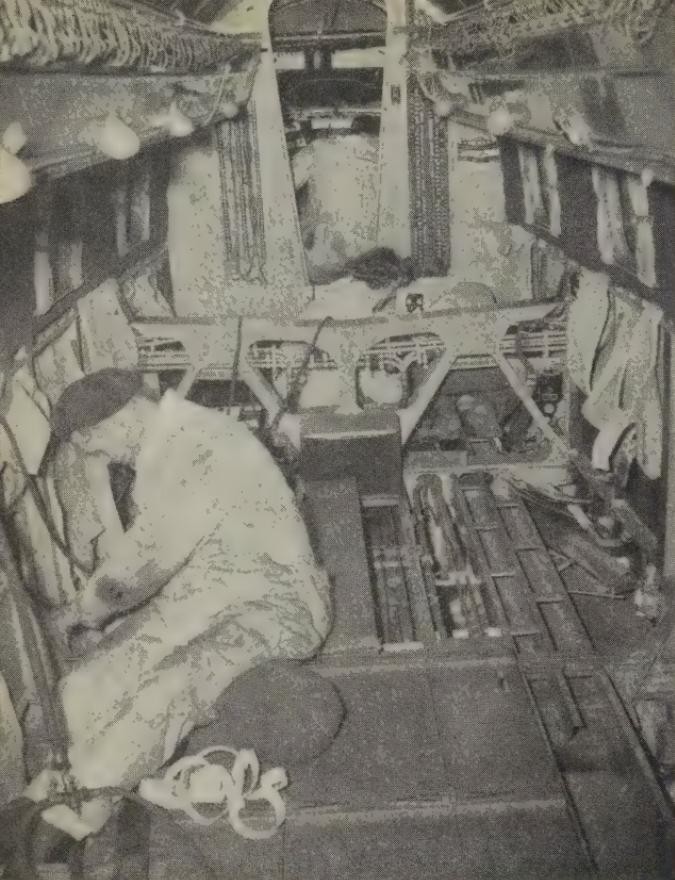
Cities and Towns with a Manufacturing Production of Over Twenty-Five Million Dollars in 1942—concluded

Cities and Towns	Estab- lishments	Capital	Em- ployees	Salaries and Wages	Cost of Materials	Gross Value of Products
						No.
St. Boniface, Man.....	47	14,054,744	2,967	4,355,730	41,660,973	56,026,136
Niagara Falls, Ont.....	66	45,130,600	7,863	13,079,782	27,930,158	54,729,911
Shawinigan Falls, Que.....	40	67,196,869	5,757	8,604,518	18,363,469	52,441,920
Sault Ste. Marie, Ont.....	48	57,405,589	5,156	9,555,877	16,279,902	47,647,080
Ottawa, Ont.....	208	39,852,382	10,687	15,775,003	19,749,297	47,165,226
Lachine, Que.....	33	39,300,871	6,022	13,232,146	17,630,511	46,137,523
Three Rivers, Que.....	66	62,503,676	7,016	9,971,250	19,049,134	44,653,278
Fort William, Ont.....	45	33,110,112	6,849	10,721,418	14,121,841	42,208,054
Sherbrooke, Que.....	85	27,998,514	8,159	9,740,089	19,209,636	42,051,512
Leaside, Ont.....	40	23,505,201	5,484	8,655,493	15,161,673	36,180,669
Sydney, N.S.....	42	54,203,775	6,370	9,997,902	20,046,696	33,894,857
Saint John, N.B.....	121	20,555,857	4,702	5,773,229	21,246,668	33,365,934
Kingston, Ont.....	52	30,754,969	5,761	8,417,226	15,160,621	33,337,664
Halifax, N.S.....	113	24,427,955	6,593	9,969,731	13,465,599	32,931,486
New Westminster, B.C.....	89	18,215,509	4,779	7,138,298	18,072,901	32,690,186
Guelph, Ont.....	87	16,962,638	5,609	7,630,275	16,780,099	32,680,095
Regina, Sask.....	104	14,942,348	3,040	4,862,054	19,218,399	30,130,935
Cornwall, Ont.....	46	32,511,137	5,343	7,144,254	10,781,817	28,403,101
St. Laurent, Que.....	18	11,891,188	7,713	12,535,377	9,040,179	28,380,654
Moose Jaw, Sask.....	43	7,205,998	1,318	1,877,071	20,542,708	26,984,304
Galt, Ont.....	74	18,066,451	6,130	8,495,969	10,452,416	26,433,968
Chatham, Ont.....	57	22,703,120	2,614	3,889,646	17,412,702	25,852,633



Army Tank Radios.—This complete communication system for use in tanks combines transmitter, receiver and means for inter-crew communication. A special assembly line produces thousands of these sets, keeping pace with Army demands.

Courtesy, Northern Electric Company



Rebuilding a TCA "Lode-star" Used in Across-Canada Service.

*Courtesy,
Canadian National
Railways*

Conditions During the Years 1939-44

A good all-round barometer of industrial activity is afforded by the index of employment maintained from month to month in the Dominion Bureau of Statistics. This is based on returns received from establishments having 15 or more employees and covers the great majority of employees.

The index indicates the gradual but steady increase in employment that took place from Jan. 1, 1939 (when the index registered very little more than for the basic year 1926), to the outbreak of war in September, and the increasing tempo of movement through 1940, 1941 and 1942. The rate of increase began to taper off after 1942, although its highest point (231.3) was reached on Oct. 1, 1943. Since then there has been quite an appreciable decline in industrial employment.

Monthly Indexes of Employment in Manufactures, 1939-44
(1926 = 100)

Month*	1939	1940	1941	1942	1943	1944	Month	1939	1940	1941	1942	1943	1944
Jan. 1.....	104.3	118.2	142.5	187.1	219.6	226.4	July 1...	111.3	130.3	172.4	209.5	226.5	225.8
Feb. 1.....	106.0	120.5	147.4	191.2	222.1	227.3	Aug. 1...	112.8	134.4	176.8	212.4	227.7	225.0
Mar. 1.....	107.0	122.6	150.8	195.7	223.4	226.5	Sept. 1...	115.3	138.4	181.4	215.6	229.9	226.2
Apr. 1.....	107.1	123.4	158.2	199.4	224.1	225.5	Oct. 1...	119.7	143.8	184.9	218.3	231.3	223.7
May 1.....	108.4	125.7	162.3	202.3	222.9	223.2	Nov. 1...	122.1	144.6	187.5	218.6	230.8	221.3
June 1.....	111.4	129.2	168.0	205.9	224.1	223.1	Dec. 1...	122.2	144.7	188.4	221.7	230.9	220.1

CHAPTER X

Transportation—Communications

Steam Railways.—Over half of the railway mileage in Canada is owned and operated by the Dominion and Provincial Governments and the remainder by incorporated companies. The mileage of railways publicly operated as at Dec. 31, 1943, was as follows: Dominion, 22,588 miles; provincial, 922 miles; municipal, 92 miles; total 23,602 miles. Incorporated companies operated 18,743 miles.

During the War of 1914-18 railway traffic increased 41 p.c. in ton miles and 28 p.c. in passenger miles, while the number of employees decreased 10 p.c. Both the railways and the Government profited by the mistakes made during that War and in November, 1939, a Controller of Transport was appointed to control railway traffic by prohibiting freight from being shipped unless provision were made for prompt unloading, by facilitating the heavier loading of cars, and by restricting passenger travel, etc. The Transport Controller exercises control of goods, including civilian and defence materials, moving between points in Canada, and to the various ports for export, and also supervises the movement of civilian passengers and military, naval and air force personnel.

Servicing Locomotives in a Round House.—In these locomotive service stations, situated at strategic points, engines are cleaned, lubricated, fueled and watered before each run.

Courtesy, Canadian National Railways





Railway Traffic Control. — All train movements in railway terminals are controlled by dispatchers from a central control room. The switches are thrown from this control room and the progress of each train recorded on a chart.

Courtesy,
Canadian National
Railways

Railway Statistics, by Months, 1942-44

Month	Railway Gross Operating Revenues			Total Revenue Freight Loadings		
	1942	1943	1944	1942	1943	1944
	\$ '000	\$ '000	\$ '000	tons '000	tons '000	tons '000
January.....	45,422	50,679	59,119	6,845	6,517	8,103
February.....	44,044	53,025	59,630	6,571	7,110	8,011
March.....	50,858	62,811	67,123	7,287	8,305	8,880
April.....	50,597	65,338	63,536	7,391	8,097	8,335
May.....	53,036	64,366	66,599	7,722	8,121	9,316
June.....	55,247	66,682	67,010	7,924	8,486	9,268
July.....	57,529	69,727	69,026	8,090	8,583	8,682
August.....	58,881	69,815	68,900	7,777	8,995	9,289
September.....	58,590	66,620	68,253	7,692	8,941	9,298
October.....	61,281	66,914	68,258	8,749	9,262	9,561
November.....	56,926	67,364	66,294	8,248	9,420	9,553 ¹
December.....	63,593	68,318	—	7,567	8,481	7,767 ¹

¹ Preliminary estimate.

Canadian Railways and the War.—Transportation of freight and passengers by Canadian railways is being maintained at a high standard of efficiency and is making a vital contribution to the country's war effort. Prior to the outbreak of hostilities, track, motive power and rolling-stock were maintained in good order and were in condition to meet the constantly increasing volume of traffic imposed by the War.

The importance of adequate and efficient transportation service in war-time is too obvious to require emphasis. With restrictions on tires and gasoline, much of the traffic formerly carried by the motor-vehicle has been transferred to the railways, especially passenger traffic, and the increase in total traffic has been enormous. The tons of freight carried during the first seven months of 1944 increased by 125 p.c. over the same period in 1939, but because of longer hauls the ton miles increased by 173 p.c. Passengers carried increased by 181 p.c., and here also the longer journeys

Canada's Steam Railways

Passenger service on Canadian railways has been maintained at a high standard of efficiency, despite the greatly increased traffic during the war years.

An Up-to-Date Sleeping Car.



A Standard Dining Car.



A Café Car, developed to speed up dining-car service on crowded trains. This car is capable of seating 40 passengers at one time.



Courtesy, Canadian National Railways

increased the passenger miles by 291 p.c. At the same time the amount of coal used by the railways has almost doubled and the use of other supplies, of course, has shown corresponding increases. The manner in which this greatly increased traffic has been handled is remarkable and it has been accomplished in spite of the enlistment of a great number of regular railway employees in the Armed Forces and an increase in the number of employees of only 31 p.c.

The Canadian Government, through the Department of Transport, has, since 1939, placed orders for sufficient rolling-stock and equipment to meet possible shortages. Many locomotives of the newest type and design, and 12,753 freight and passenger cars have been acquired on the Department's orders and delivered to the Railways on a hire-purchase basis. In addition, outdated equipment has been rehabilitated and placed in service and luxury-type equipment has been remodelled to meet existing war requirements.

The development of special units of equipment has been necessary, including commissary kitchen cars for feeding troops in movement on trains; special dining cars equipped with long tables to accommodate 54 at one sitting; and café cars, capable of seating 40 passengers at one time. In addition, hospitals cars now carry wounded soldiers over the railway lines from the seaboard to various bases in Canada. These cars are equipped with every known medical accessory for the welfare and care of the casualties.

Canadian railways are doing much more than looking after the transportation of passengers and freight, the carrying of messages, and the operation of hotels, etc. They have assisted industries in locating and establishing new plants; they are building guns, gun carriages, tanks, ships and secret devices and their own steamships are on active service either with the Merchant Navy or as auxiliary cruisers with the Royal Navy. One Canadian vessel, the SS *Lady Nelson*, has been converted into a hospital ship, and many are operating as troop transports in the war zones in Europe and in the Pacific.

Electric Railways.—Electric railways continue to be replaced by motor-buses except in the larger cities, and trackless buses have been inaugurated in Edmonton, Winnipeg and Montreal. In the large cities and centres where war industries are located, the local passenger traffic has increased to unprecedented proportions. New equipment has been almost impossible to secure and the peak loads in the mornings and especially in the evenings have been spread somewhat by staggering the working hours of industries, stores and office staffs.

In Montreal the number of passengers carried increased in 1943 over 1939 by 145,000,000 or 70 p.c.; in Toronto by 129,000,000 or 81 p.c.; in Halifax by 222 p.c.; in Ottawa by 149 p.c.; in Winnipeg by 78 p.c.; in Edmonton by 104 p.c.; and in Calgary by 109 p.c.

A Transit Controller was appointed by the Dominion Government to control local traffic and motor-bus traffic. Under his instructions, equipment has been transferred from one city to another, car stops have been eliminated and working hours staggered in an effort to improve traffic conditions.

Roads and Highways.—Construction of roads suitable for motor traffic has been one of the principal items of provincial expenditure during the past twenty-five years. The Dominion Government has built roads in National Parks and has

A Modern Streamlined Street Car in Service in the Larger Canadian Cities.—These quiet smooth-riding trolleys in many ways simulate a motor-vehicle. The 220 h.p. motor and triple brakes are operated by foot pedals and the car is able to pick up speed at more than four miles per hour per second. Efficient ventilation and electrical heating assure a comfortable temperature in all seasons.



Courtesy, Toronto Transportation Commission

granted subsidies to the provinces, first in 1920 and again as an unemployment relief measure in 1930-39, but has not constructed any rural roads outside of Dominion lands.

The mileage at the end of 1943 was 124,906 miles of surfaced roads, and 427,697 miles of earth roads. Of the surfaced roads, 108,354 miles were gravel or crushed stone; 13,989 bituminous surfaces; 2,525 portland cement concrete.

The expenditures for 1943 amounted to \$65,094,997, including \$22,842,064 for construction of roads, \$2,036,697 for construction of bridges, \$34,603,578 for maintenance of roads, \$3,192,601 for maintenance of bridges, \$20,380 for footpaths and sidewalks, and the remainder for administration and general expenses.

Motor-Vehicles.—The number of motor-vehicles registered in Canada increased steadily and rapidly from 3,054 in 1908 to 276,893 in 1918. The highest point in the pre-depression period was reached in 1930 when the total registration numbered 1,232,489 cars; this figure was exceeded in 1935 and each year since then showed an increase until 1942 when the number was reduced by war conditions.

Since 1941 there has been a drastic curtailment in the use of motor-vehicles for passenger transportation, which has applied not only to privately owned passenger cars but also to bus transportation and taxi service. This has been a direct result of the diversion of all manufacturing facilities to war production and of rigid restrictions in the use of rubber and gasoline for any but vital war needs.

Provincial revenue from motor-vehicles for 1943 totalled \$86,842,351, including: \$28,075,392 from motor-vehicle registrations, drivers' permits, etc., and \$57,215,332 from gasoline tax of which \$11,611,601 was paid by the Dominion Government to offset reduced taxes. During 1943 there were 1,409 persons killed in motor-vehicle accidents, which was an increase of 23 over 1942 but a decrease of 443 from the peak of 1,852 reached in 1941.

Motor Vehicles Registered in Canada, 1936-43

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹
1936...	7,632	46,179	33,402	181,628	590,226	74,940	102,270	97,468	106,079	1,240,124
1937...	8,011	50,048	36,780	197,917	623,918	80,860	105,064	100,434	116,341	1,319,702
1938...	7,992	51,214	37,110	205,463	669,088	88,219	109,014	107,191	119,220	1,394,853
1939...	8,040	53,008	38,116	213,148	682,891	88,864	119,018	113,702	122,087	1,439,245
1940...	8,070	57,873	39,000	225,152	703,872	90,932	126,970	120,514	128,044	1,500,829
1941...	8,015	62,805	41,450	232,149	739,194	96,573	131,545	126,127	134,499	1,572,784
1942...	7,537	58,872	37,758	222,622	715,380	93,147	130,040	125,482	132,893	1,524,153
1943...	8,032	59,194	40,205	222,676	691,615	93,494	133,839	127,559	134,691	1,511,845

¹ Includes Yukon.

Shipping.—Canadian shipping is divided into two classes: (1) foreign service, and (2) coasting service. The first is subdivided into: (a) seagoing, i.e., between Canadian ports on the Pacific and Atlantic Oceans and on the St. Lawrence up to Montreal, including fishing at sea and at ports in other countries; and (b) inland, i.e., between Canadian and United States ports on the Great Lakes and connecting rivers. The second is service between Canadian ports, including fishing in Canadian waters.

Shipping statistics are collected only from ports at which there is an official of the Customs and Excise Division of the National Revenue Department, and consequently do not include shipping on Mackenzie River, Lake Winnipeg, etc.

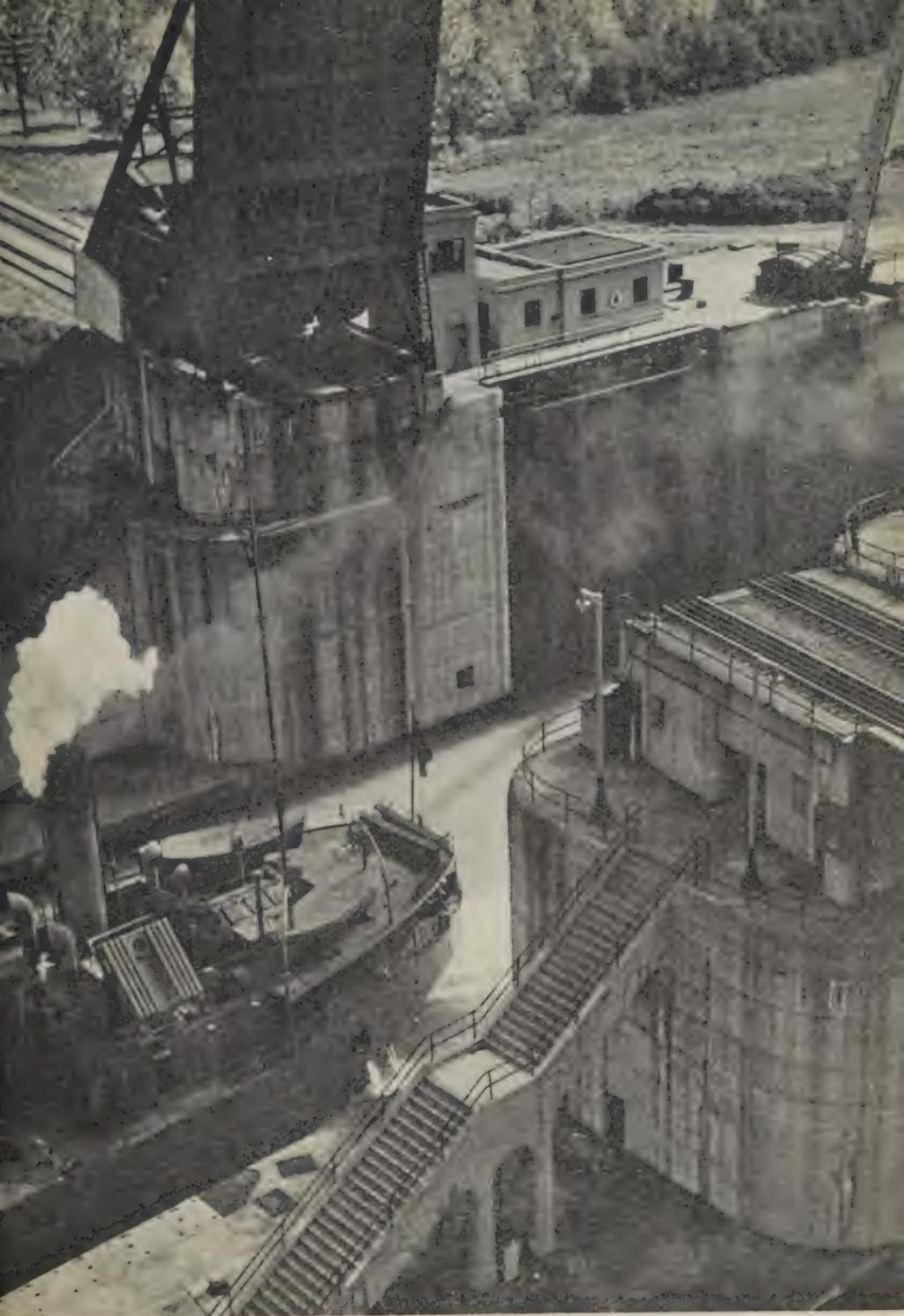
Vessels Entered at Canadian Ports, 1936-43

Fiscal Year	Foreign Service ¹		Coasting Service		Totals	
	No.	Tons Register	No.	Tons Register	No.	Tons Register
1936.....	37,800	41,746,953	69,809	42,979,361	107,609	84,726,314
1937.....	41,755	45,030,914	73,033	45,973,830	114,788	91,004,744
1938.....	42,582	45,603,055	75,537	44,471,834	118,119	90,074,889
1939.....	43,601	44,775,116	73,386	45,386,457	116,987	90,161,573
1940.....	46,241	46,666,396	78,212	44,361,232	124,453	91,027,628
1941.....	25,122	32,579,900	79,951	50,471,166	105,073	83,051,066
1941 ²	26,203	31,452,400	77,592	48,111,082	103,795	79,563,482
1942 ²	24,066	25,640,763	73,366	43,990,764	97,432	69,631,527
1943 ²	22,901	26,345,562	65,066	40,300,778	87,967	66,646,340

¹ Sea-going and inland international.² Calendar year.

Canals.—There are six canal systems under the Department of Transport, namely: (1) between Fort William and Montreal, (2) from Montreal to the International Boundary near Lake Champlain, (3) from Montreal to Ottawa, (4) from Ottawa to Kingston, (5) from Trenton to Lake Huron, and (6) from the Atlantic Ocean to Bras d'Or Lakes in Cape Breton. These canals have opened to navigation from the Atlantic about 1,890 miles of waterways. Under the Department of Public Works or other authority are minor canals and locks that facilitate local navigation.

The Great Lakes and St. Lawrence River form one of the busiest waterways in the world. More traffic passes up and down the Detroit River than any other waterway and the traffic through the canals at Sault Ste. Marie, Ont., in 1929 reached a peak of 92,616,898 tons, more than through the Panama and Suez Canals combined. Due to heavy war requirements for iron ore this margin was increased to a total of 120,200,814 tons in 1942 and 115,851,098 tons in 1943.



The Welland Canal.—A railway bridge spanning the Welland Canal is lifted to allow passage of a lake freighter on its way from Lake Ontario to Lake Erie.

National Film Board

The maximum draught of vessels plying between the lakes is governed by channels in the Detroit and St. Mary's Rivers, and is limited to about 21 feet. Since 1932 when the New Welland Ship Canal, with 25 feet in the stretches between locks (the locks have 30 feet of water above the sills), was opened, larger upper-lake vessels have passed down as far as Prescott. The St. Lawrence canals have a depth of 14 feet (reduced in periods of low water) so that ocean vessels, except of small tonnage, cannot sail up into the lakes; a few such vessels have been engaged in the Great Lakes traffic for several years, bringing cargoes from European ports.

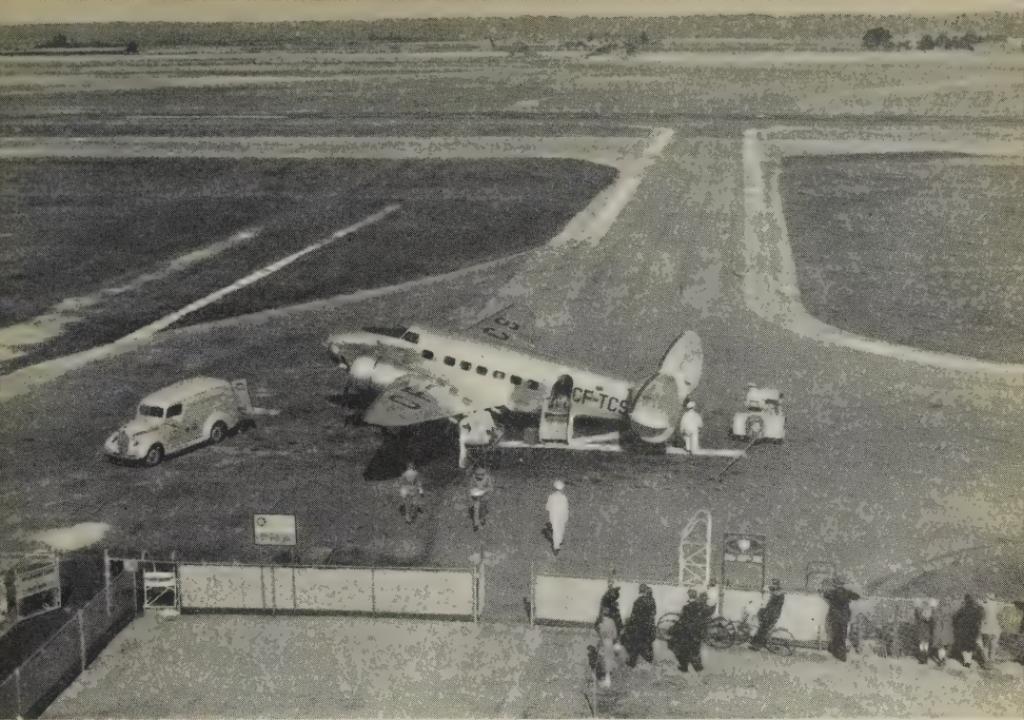
Canadian Scheduled Air Transport Services.—*Government Air Policy.*—In a statement in the House of Commons on Apr. 2, 1943, the Prime Minister made it clear that, in the international field, Canadian support would be given to any reasonable proposal for international control in the interests of peace in the post-war years. In the domestic field he stated that Trans-Canada Air Lines would "continue to operate all trans-continental systems and such other services of a mainline character as may from time to time be designated by the government" and that Trans-Canada was "the sole Canadian agency which may operate international air services". He stated that secondary services would be left to private enterprise, but made it clear that no competition would be permitted either between a private company and a publicly owned company, or between two private companies.

On Mar. 17, 1944, the Minister of Munitions and Supply, who is the responsible minister for air, further elaborated Government policy by stating that the railways would be required to divest themselves from the control of airways within one year after the end of hostilities in Europe. He further stated that the establishment of new air routes would be deferred until the men returning from overseas were able to participate in forming them.

The Aeronautics Act was amended during the latest Session by making provision for the establishment of an Air Transport Board to advise the Minister on questions of general policy in connection with air transport, to investigate and recommend the establishing of new air routes and to license all commercial air transport services. At the same time the Transport Act was amended by repealing those sections dealing with the control of aviation, thereby taking from the hands of the Board of Transport Commissioners the licensing powers previously held with regard to civil aviation.

Trans-Canada Air Lines in 1944.—The year 1944 was, for Trans-Canada Air Lines, another period of close participation in the nation's war effort. Schedule revisions aimed to secure more intensive use of the company's available fleet of aircraft. This was particularly true in the Maritimes, where a re-routing of an existing Montreal-Halifax flight permitted a stop at Blissville, N.B., and a measure of service to the cities of Saint John and Fredericton. At the same time, direct operations were commenced between Halifax and Sydney, N.S. In October, a third trans-continental flight was inaugurated between Montreal and Vancouver. In the first eight months of the year T.C.A. aircraft flew 6,734,694 miles, an increase of 965,255 miles over the corresponding period in 1943; carried 2,507,693 lb. of mail, an increase of 143,689 lb.; an express load of 594,588 lb., an increase of 106,925 lb.; and 107,006 revenue passengers, an increase of 15,290.

The Canadian Government Trans-Atlantic Air Service, operated by the Company for the quick movement of mail to and from the Canadian Armed Forces over-



A T.C.A. 'Plane Arrives at Vancouver Airport.

Courtesy, Canadian National Railways

seas, increased its scope in 1944. At the end of August a three round-flight weekly schedule was being maintained between Canada and the United Kingdom. Five converted Lancaster aircraft were available to the service. Individual mail loads of as much as three tons were being moved with regularity, as well as a considerable quantity of priority freight and some official passengers.

Other direct war activity included a continuance of maintenance work for the British Overseas Airways Corporation return ferry service across the Atlantic, and the overhaul of engines, propeller-assemblies, instruments and accessories at Winnipeg, for the R.C.A.F., for British Overseas Airways and for training schools operating under the British Commonwealth Air Training Plan.

Present routes total 5,296 miles, made up as follows: St. John's, Newfoundland, to Victoria, B.C., 3,931 miles; Halifax to Moncton, 120 miles; Halifax to Sydney, 201 miles; Halifax to Blissville, 172 miles; Toronto to New York, 365 miles; Toronto to Windsor, 206 miles; Lethbridge to Edmonton, 301 miles.

With a high percentage of the male employees of the Company in the Armed Forces, Trans-Canada Air Lines continued in 1944 to feel the pinch of the manpower shortage. However, the beginnings of an ultimate program of rehabilitation was begun in 1944 with the employment of a number of returned servicemen, particularly flight personnel who had completed tours of operations overseas with the R.C.A.F. In addition, many women (34 p.c. of the entire staff) are now serving with the Company.

Canadian Pacific Air Lines.—The consolidation of the many independent commercial operators chiefly engaged in servicing the mining industry in northern

Canada has been proceeding gradually for the past few years. Canadian Pacific Air Lines now controls the operation of Canadian Airways Limited, Arrow Airways Limited, Ginger Coote Airways, Prairie Airways, Mackenzie Air Service, Yukon Southern Air Transport Limited, Dominion Skyways Limited, Quebec Airways, Wings Limited, Starratt Airways and Transportation Company.

The component companies of C.P.A. in 1942 flew approximately 5,300,000 miles, carried 60,000 passengers and 10,000,000 lb. of freight, express and mail. Their employees numbered 7,000. In 1943 miles flown totalled over 6,600,000, 73,000 passengers were carried, and approximately 12,000,000 lb. of freight, express and mail. At the end of 1943 Canadian Pacific Air Lines had 9,200 employees. Ninety per cent of the Company's business is now for war purposes—in the northwest for the important developments in these remote districts arising out of the Joint Defence Programs of Canada and the United States for the defence of northwestern Canada and Alaska; in the northeast in connection with the construction of plants for war industries and of aerodromes. "Bush" services have been maintained in all important areas; the reduction in activity due to the decline in gold mining has been compensated for by the increased war-time search for essential war minerals.

To meet the increasing traffic, more efficient and larger twin-engined aircraft have been placed in operation on several routes replacing the former ski-float operations. Up-to-date air navigation facilities, including aerodromes, radio ranges, improved weather and communication services and lighting are also being installed so as to permit of all-weather, night-and-day operation. Every effort is being made to bring such services up to mainline standards as rapidly as possible.

Independent Air Lines.—Although many of the principal operating companies have been absorbed by C.P.A., there still remain independent organizations in this field. Typical of these are Maritime Central Air Lines which operates a mail, passenger and express service between Moncton, Saint John, Blissville, Summerside, Charlottetown and New Glasgow; the M. and C. Aviation Company, which at present operates a licensed air-mail, passenger and express service from Prince Albert to northern Saskatchewan points.

Telegraphs.—Six telegraph systems are operated in Canada, five in conjunction with the railways and one small system that is owned and operated independently. One United States company operates lines across Canadian territory; one private Canadian company operates a wireless system; and three cable companies, in addition to the telegraph companies, operate cables from Canadian stations. In all, 22 cables are operated between Canada and England, Azores, Australia, New Zealand, Newfoundland, St. Pierre and Miquelon, and Bermuda, and 2 cables between North Sydney and Canso, N.S.

These systems operate 378,931 miles of telegraph wire in Canada, 5,419 miles outside of Canada, and 32,805 nautical miles of submarine cable between Canada and other countries. Multiple circuits normally produce 689,621 miles of channels for telegraphic use. During 1943 a total of 16,469,564 telegrams and 3,047,403 cablegrams, excluding messages between foreign countries, were handled over these wires.

Telephones.—There were 3,192 telephone systems in Canada in 1942, operating 6,014,596 miles of wire and 1,627,775 telephones. The estimated number of conversations during the year was 2,998,874,000 or 1,842 per telephone. Over half of the telephones are dial telephones and are operated by automatic switchboards, the increase in dial telephones during 1942 being 68,992 as against a decrease of 3,363 telephones connected with manually operated switchboards.



Wiring Key Shelves and 'Arranging the Multiple' in the Largest Long-Distance Telephone Centre in Canada.—This picture provides a glimpse of the intricate and detailed work necessary to keep the telephone system working smoothly.

National Film Board

National Broadcasting.—In addition to the Canadian Broadcasting Corporation, there were 97 private commercial broadcasting stations operating in Canada in 1944. The CBC, however, operates under the Canadian Broadcasting Act which gives it regulatory powers over all broadcasting stations and its networks give effective coverage to almost the entire population.

Since November, 1936, when the CBC succeeded the former Canadian Radio Broadcasting Commission, many changes in radio-listening habits throughout the Dominion have been noted. Audiences have grown steadily, as reflected in the increased revenues from licence fees. There is much less listening to stations located outside of Canada than there was a few years ago, while program selection, rather than station tuning as such, is steadily becoming more prevalent. In the more isolated areas, radio has come to represent the main source of entertainment, of news, of adult education and, indeed, in many communities, of cultural development.

The progressive step of setting up a publicly owned broadcasting organization grew out of a national necessity. The extension of coverage to embrace the vast rural, as well as urban, areas was vital. This has been brought about by the erection of more powerful stations and by extending land lines to numerous other stations. Hours of network operation have been extended from a limited schedule to a full

16-hour schedule. Regular interchanges have been established with the BBC and United States networks, so that to-day CBC listeners enjoy much of the very best from six great networks.

The members of the Board of Governors are appointed for three years, in rotation, to act as "trustees of the national interest in broadcasting". They are responsible for the policies of the Corporation, and for guaranteeing to the public that broadcasting will be administered in a non-partisan and business-like manner. The CBC is responsible to Parliament through the Minister of National War Services.

Transmission Facilities.—In the earlier part of 1944, the CBC organized a second national network to give additional coverage and to provide a choice of programs for Canadian listeners. Hitherto the single national network had been known simply as the National Network; now, this became the CBC Trans-Canada Network, while the new network, which to date (September 1944) does not operate a full broadcasting day (evenings only), was called the CBC Dominion Network. The Trans-Canada Network consists of 10 CBC owned and operated stations (four 50,000-watt stations and six others) and about 20 privately owned stations affiliated to it. The Dominion Network has a basic minimum of some 29 stations.

In addition, the CBC has pioneered in the development of low-powered repeater stations which operate automatically with the network in remote areas of the Dominion. These are located at Sioux Lookout, Ont., at Edmundston, N.B., and in British Columbia at Kimberley, Fernie, Cranbrook, North Bend, Creston, Revelstoke, Quesnel, Williams Lake, Prince George and Nakina. An international shortwave station at Sackville, N.B., has been constructed and will be operated by the CBC in conjunction with the Dominion Department of External Affairs. It will relay CBC programs and carry specially designed programs to various foreign countries. Two 50,000-watt transmitters and an elaborate directional antenna system will provide world-wide reception.

Programs.—During the fiscal year ended Mar. 31, 1944, the CBC's total program production amounted to 15,966.4 hours or 52,721 individual programs, representing the highest peak yet reached in terms of individual programs and hours of operation. The primary reason for this growth is the trend towards a more complete and comprehensive service to each of the five geographical time zones with emphasis being placed on the presentation of specialized programs directed to specific audiences at the most appropriate time for listening. Such programs as farm, educational, children's and women's, come in this category and show a marked increase over the past few years. The operation of the second network will likely bring about new changes in the program structure during 1945.

CBC and the War.—While the task of gradually improving programs goes steadily on, the CBC recognizes that its chief responsibility is to the nation at war. With industry and the Armed Forces absorbing larger and larger sections of the community, the task of providing accurate information about events at home and abroad and of retaining the links that bind Canadians in other parts of the world with their homeland takes precedence. Such programs as those devoted to the interests of farmer and labour take on a new significance in time of war and cannot be considered less than essential to the national effort. Naturally, too, programs designed to interpret the latest governmental regulations and legislation, as they affect the individual, find place in broadcasting schedules. Attention is also directed to regularly scheduled talks originating in Canada, Britain and the United States,



The CBC Records the Progress of the Canadian Armed Forces at the Fighting Fronts.—*Above*: One of the recording vans of a CBC Mobile Unit drawn up alongside a destroyed German tank. CBC correspondents discuss the possibilities of a broadcast. *Below*: A CBC correspondent records a despatch from an active part of the Italian front.



Courtesy, Canadian Broadcasting Corporation

which deal with one of the War's many phases. The CBC co-operates with all Government War Departments and has staffs, including war correspondents and engineers, in war zones where there are Canadian troops.

Broadcasting CBC News.—The CBC news service is available to all radio stations in Canada to which there are land lines. Private stations may release the CBC news service only on a sustaining, non-sponsored basis. Newsrooms are maintained by the CBC at Halifax, Montreal (which provides news in both English



Broadcasting the National Farm Radio Forum.—In the background the operator can be seen adjusting the volume level of the program to the network lines.

Courtesy,
Canadian
Broadcasting
Corporation

and French), Winnipeg and Vancouver with a central newsroom at Toronto. The Canadian Press and British United Press both provide full news services to the CBC, while reports are picked up by CBC shortwave listening-posts at Ottawa, Dartmouth, N.S., and Hornby, Ont., and are also received from CBC war correspondents overseas. The CBC pays for its news service from CP and BUP, but rewrites the bulletins for radio consumption, incorporating items of unusual interest from the other sources mentioned.

The Post Office.—War-time conditions have brought a continuing and enormous expansion of postal business of all kinds throughout Canada; war industries, governments, and private citizens are utilizing postal facilities as never before. This is revealed by the gross postal revenue, which has increased from \$42,896,179 in the fiscal year 1938-39 to \$73,004,399 in 1943-44. In the latter year, money orders to the amount of \$256,630,949 payable in Canada and \$5,666,382 payable in other countries were issued, together with postal notes to the value of \$25,593,818.

Air Mail.—To-day, with the emphasis on speed in war production, the Trans-Canada Air Mail System—now operating twice daily each way from the Atlantic to the Pacific over some 3,900 miles—is proving an invaluable asset, and air-mail volume continues to increase, over 326,907 lb. being carried during the last month of the fiscal year 1943-44. Swift connections are made with the United States and other air-mail networks of the world. Canada's expanding use of the air-mail services is reflected in the following figures:—

<i>Year Ended Mar. 31—</i>	<i>Miles Flown No.</i>	<i>Mail Carried lb.</i>
1939	3,711,987	1,822,399
1940	5,769,257	2,351,172
1941	8,330,121	2,842,367
1942	10,021,579	3,541,625
1943	10,799,670	5,373,021
1944	12,799,218	7,220,554

Military Mails.—The Canadian Postal Corps was originally recruited from executives and personnel of the Canadian Post Office in 1939 and is serving all branches of the Armed Forces. The Base Post Office in 1943-44 despatched overseas the record volume of over 30,552,000 lb. of parcels, 715,100 lb. of letters and 1,133,545 lb. of news to the fighting services. Members of the Armed Forces overseas, including Auxiliary Services, have been allowed free mailing on letters to Canada and special reduced rates on gift parcels mailed from Canada.

Facilities have been established to expedite correspondence with the Armed Forces in the form of Airgraphs—letters on film that travel by air—and the Armed Forces Air Letter—a combined lightweight letter and envelope operating at the low postage rate of 10 cents. In 1944 both services were extended for civilian overseas use and the Airgraph fee reduced to 5 cents.

Special arrangements are also in effect for communication with prisoners of war interned abroad, and the Canadian Army Priority Casualty Postcard was introduced to enable a soldier entering hospital to send a personal message by air to his family, and to have his mail short-circuited to his hospital. Since December, 1943, flying fortresses have carried mail to the Armed Forces to speed up mail delivery to the United Kingdom, Italy and North Africa.

Later, in 1944, to further speed cigarette deliveries overseas, huge reserves of cigarettes were established in Italy and the United Kingdom. As orders are received, addressed labels are prepared and flown overseas by the Post Office; at the reserve depot the orders are quickly filled and the packages of cigarettes delivered.



Loading Mail for Overseas on a Lancaster Bomber.—A "Lancaster" carries 6,000 lb. of air mail.

Courtesy, Canadian National Railways

CHAPTER XI

Labour—Employment and Unemployment—Pensions

Labour Legislation in Canada

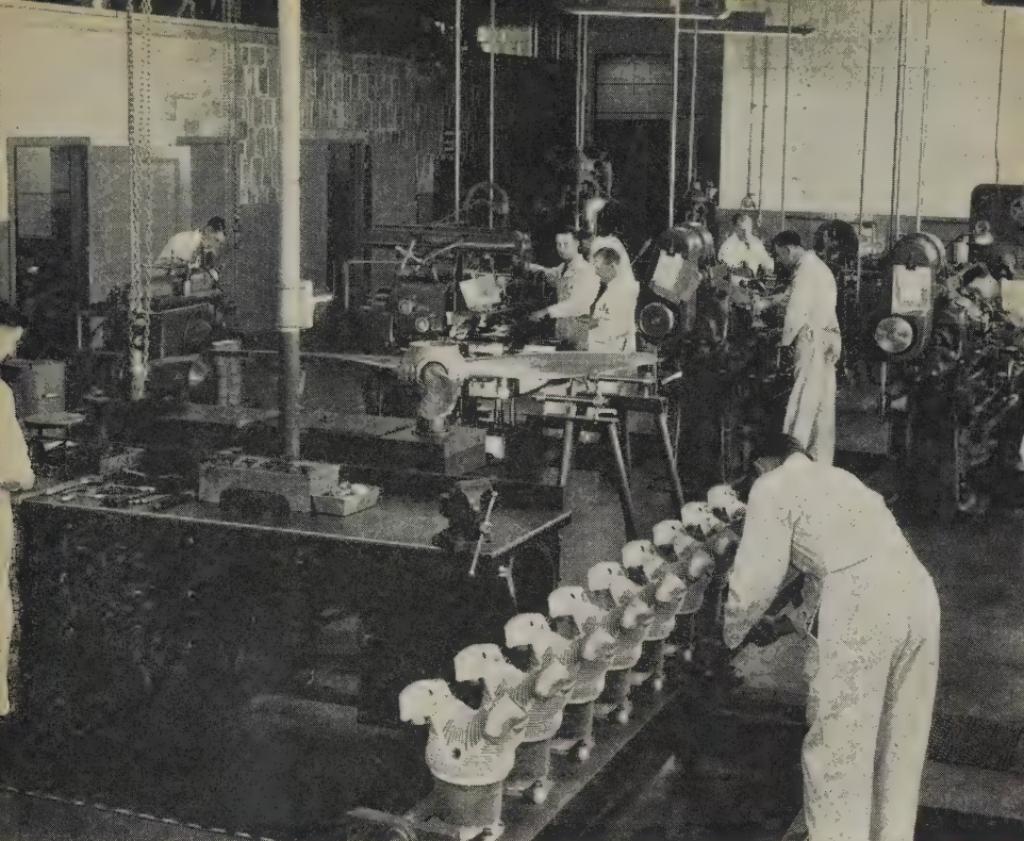
The Dominion and Provincial Fields.—In Canada most labour laws have been enacted by the provinces as they relate to civil rights or to local works and undertakings, subjects which, with the exception of certain specified works, railways, shipping, telegraphs and other works extending beyond the boundary of a province, are, under the British North America Act, reserved to the provinces. In all provinces, except Prince Edward Island in which there is little industrial employment, there are laws for the regulation and inspection of mines, factories, shops and other workplaces and dealing with wages, hours of work, the employment of women and children and workmen's compensation. In some provinces laws have been enacted to protect the right of association, to require employers to bargain with the representatives of employees or with trade union officers and to prohibit any strike or lockout until after inquiry.

The Dominion regulates working conditions of its own employees, provides compensation for them in case of accident or certain diseases arising out of their employment and requires observance of specified wage and hour conditions in the execution of Dominion public works and of contracts for supplies. There are Federal laws relating to employment on railways and in the mercantile marine and, under its power over criminal law, Parliament enacted legislation freeing trade unions from liability to prosecution as conspiracies, permitting peaceful picketing, and prohibiting employment on Sunday except under certain conditions. In 1940, a statute was passed providing for a national system of unemployment insurance and of employment offices (see pp. 158-160).

The Dominion and the provinces have co-operated to enable the former to deal with certain classes of labour disputes under a Dominion statute, the Industrial Disputes Investigation Act. This Act prohibits a strike or lockout, pending investigation of the dispute by a tripartite board, in mining, transport, communication services and certain public utilities within Dominion jurisdiction or in any such industries within provincial jurisdiction if legislation of the province in question has made the Act applicable. In all provinces, except Prince Edward Island, Alberta, Manitoba and British Columbia, there is legislation to this effect.

In 1900 a Dominion Department of Labour was established under the Conciliation Act to aid in improving labour conditions and settling disputes through mediation and the dissemination of information. The Minister of Labour is charged with the carrying out of the Fair Wage Policy for Government contracts, the Industrial Disputes Investigation Act, Government Annuities Act, Combines Investigation Act, Vocational Training Co-ordination Act, Unemployment Insurance Act and Re-instatement in Civil Employment Act. Information on the operation of these statutes is given in the annual reports of the Department and of the Unemployment Insurance Commission and also in the *Labour Gazette*, which is issued monthly.

Departments of Labour in all provinces, except Alberta and Prince Edward Island, administer most provincial labour laws, but in the four western provinces



Machining Aeroplane Parts in a Modern Shop.

Courtesy, Canadian National Railways

the Workmen's Compensation Boards are independent. In Alberta the Department of Trade and Industry, through the Board of Industrial Relations, deals with wages and hours legislation and with factory inspection. In all provinces laws for the protection of miners are administered by the respective Departments of Mines.

War Regulations.—To deal with problems arising out of the War, a number of Orders in Council have been made under the War Measures Act. A declaration of principles for the conduct of industrial relations in war-time was embodied in an Order in Council. The Industrial Disputes Investigation Act was extended to war industries and provision was made for preliminary inquiries into disputes by industrial disputes inquiry commissioners with a view to settlement, if possible, without recourse to the appointment of a board of conciliation and investigation. More recently, provision was made for compulsory collective bargaining and arbitration of disputes arising out of a collective agreement.

A comprehensive National Selective Service Program has been put into effect and is designed to secure the most effective distribution of manpower both within industry and between industry and the Armed Forces (see p. 159). Skilled workers for these categories are trained under a War Emergency Training Program (see p. 161). A comprehensive wages control policy is in effect (see below) and is supplemented by control of salaries. Persons discharged from the Armed Forces must be reinstated in their former jobs and other steps have been taken to assist them in

re-establishing themselves in civil life. Pensions and compensation are provided for Canadian seamen and salt-water fishermen who suffer disability, loss of effects, etc., as a result of enemy action.

The Report of the National War Labour Board, covering its inquiry into industrial relations and wage conditions, was made public in January, 1944, and included recommendations for a code of labour relations administered by a National Wartime Labour Relations Board, and for a simplification and amendment of the Wartime Wages Control Order.

In February, 1944, after the provinces had been consulted, an Order in Council (P.C. 1003) was issued embodying the Wartime Labour Relations Regulations under which the Government extended its jurisdiction over employer-employee relations which are normally within the provincial field, to the extent considered necessary to cover adequately employers and employees in industries essential to the efficient prosecution of the War. Other industries are not included but may be brought within the scope of the Regulations by provincial legislation.

The Regulations are administered by a Wartime Labour Relations Board consisting of a chairman and not more than eight other members. Provision is made for an agreement between the Dominion and any province to set up suitable provincial administrative agencies to deal with local matters, but the National Board is responsible for the formulation of general policy and for ensuring the necessary uniformity in the application of the Regulations. Agreements have been made with all provinces, except Alberta and Prince Edward Island, for the setting up of provincial agencies to administer the Regulations.

Wages and Hours of Work

This policy is part of the Government's general anti-inflationary program. It was first introduced in 1940, but at that time, though it was recommended for all employers, it applied only to Boards of Conciliation and Investigation in their recommendations on wages. In October, 1941, when comprehensive price control was introduced, the wages-control policy was amplified and extended to cover all employers and workers. An Order of July, 1942, stabilized rates at the level in effect on Nov. 15, 1941, and made provision for a cost-of-living bonus adjusted to changes in the cost-of-living index. Rates that were unduly low could be raised. A National War Labour Board and nine Regional War Labour Boards administered the Order.

The Wartime Wages Control Order was revised in December, 1943, and further amendments were made early in 1944. The principal changes provide for establishment of wage rates incorporating the cost-of-living bonus, and empower the National War Labour Board to authorize or direct an increase in wage rates only where necessary to remedy a gross injustice or inequality. Increases may be granted, however, in cases where, and to the extent that, any cost-of-living bonuses and wage increases granted since August, 1939, have not yielded the employees as much as the full standard cost-of-living bonus, and also to maintain the relationship between wage rates of employees in international railway service outside Canada, where it has been the custom to fix rates in Canada in relation to those outside. A further change in the Order enables provincial minimum wage authorities to fix minimum rates pursuant to provincial regulations as high as 35 cents an hour.

The standard or normal working hours in manufacturing are in general 48 to 54 per week in textile factories, 40 to 50 in clothing factories, 48 in the pulp and paper industry, 44 to 55 in paper products, 47 to 55 in woodworking, 44 to 60 in metal manu-

T.C.R. RECREATION ASSOCIATION

Bulletin Boards in an Industrial Plant.—Stimulation of employee interest in recreational facilities and co-operative opportunities is being found increasingly beneficial to employees and employers alike.

Courtesy, Canadian National Railways



facturing, shipbuilding and aircraft industries, and 40 to 55 in the boot and shoe and rubber industries. The 8-hour day prevails in building trades in cities, on steam railways and in mining. The 10-hour day is common in logging, except in British Columbia where the 8-hour day is standard. Considerable overtime is worked in many industries owing to war demands and the shortage of workers.

Index Numbers of Rates of Wages for Various Classes of Labour, 1933-43
(1935-39=100)

NOTE—Rates include cost-of-living bonus.

Year	Building	Metal	Printing	Electric Railways	Steam Railways	Coal Mining	Common Factory Labour	Miscellaneous Factory	Logging and Sawmilling	Metal Mining	Steamships	Laundries	Telephones	General Average
1933.....	95.6	93.3	98.1	96.3	92.4	95.5	88.4	87.9	66.0	91.1	89.3	98.6	90.6	89.6
1934.....	93.7	92.7	97.7	96.2	89.3	96.1	89.8	90.3	74.9	93.4	88.6	97.7	96.6	90.5
1935.....	96.7	93.6	98.2	96.8	94.6	97.8	92.0	92.2	82.3	95.2	89.2	98.2	95.9	93.1
1936.....	97.3	93.8	98.6	97.8	94.6	97.9	94.5	94.4	90.5	97.6	90.6	98.7	96.7	94.8
1937.....	100.1	103.4	99.9	100.4	100.8	98.4	102.8	101.9	104.6	101.9	101.2	100.0	101.6	101.8
1938.....	102.5	104.4	101.5	102.1	105.0	102.9	105.0	105.2	112.0	102.4	109.0	101.4	102.8	104.9
1939.....	103.3	104.7	101.9	102.7	105.0	102.9	105.9	106.0	110.5	102.8	110.0	101.7	103.1	105.7
1940.....	105.7	109.3	103.6	105.6	105.0	104.0	109.5	110.6	114.2	103.5	115.5	103.1	104.1	109.4
1941.....	111.7	119.0	108.6	113.7	117.7	116.6	122.4	122.5	125.6	113.2	126.9	110.2	114.5	120.3
1942.....	118.4	125.9	113.8	122.6	119.8	122.0	132.0	133.2	139.4	121.0	142.6	121.6	120.5	129.6
1943.....	128.8	132.8	116.0	133.5	131.5 ¹	128.5	149.0	142.4	152.9	125.3	147.0	131.2	127.3	139.5

¹ Including a 6-cents per hour increase under National War Labour Board, awarded in 1944, retroactive to September, 1943.

Organized Labour in Canada

Trade unions in Canada are divided into four principal groups: those affiliated with the Trades and Labour Congress; those affiliated with the Canadian Congress of Labour; the unions in the Province of Quebec, which are linked with the Confederation of Catholic Workers of Canada; and the railroad brotherhoods of men in train and engine service. The railroad brotherhoods and many of the unions affiliated with the two Congresses are "international unions" in the sense that they have branches in both Canada and the United States and, in some cases, in Newfoundland, Mexico, Panama or the Philippines.

In December, 1943, there were 664,533 trade union members reported to the Department of Labour, an increase of 86,153 over 1942. The 1943 membership exceeded that for 1919, a peak year by 286,486. The number of branches of unions and of local unions was 3,735, a gain of 309 during the year. The international unions showed an increase of 46,419 in their Canadian membership. The outstanding increase in members was in the metal-working industries, chiefly steel workers, automobile workers and machinists.

The Trades and Labour Congress reported, in 1943, a paid-up membership of 190,778. The Canadian Congress of Labour reported in 1943 a membership of approximately 200,000 and the Confederation of Catholic Workers of Canada a membership of 53,384.

Industrial Disputes

For the first nine months (January to September) of 1944, the preliminary figures showed a total of 160 strikes and lockouts, involving 70,234 workers and causing a time loss of 478,989 man-working days. During 1943, there were 322 strikes and lockouts, involving 159,774 workers with a time-loss of 859,643 days. The lowest time loss since the record was commenced in 1901 was in 1930 when 91,797 days were lost in 67 disputes involving 13,768 workers. The highest occurred in 1919 when 336 disputes involved 148,915 workers and caused a loss of 3,400,942 man days.

Industrial Disputes Investigation Act.—This Act, passed in 1907, provides that when there is a dispute that threatens to cause a stoppage of work, the Minister of Labour, on the application of either party or of the municipality concerned, or on his own motion, may refer the matter to a tripartite Board of Conciliation and Investigation. The Board secures a settlement if possible and, if not, makes a report to the Minister, which is published, containing recommendations for settlement "according to the merits and substantial justice of the case".

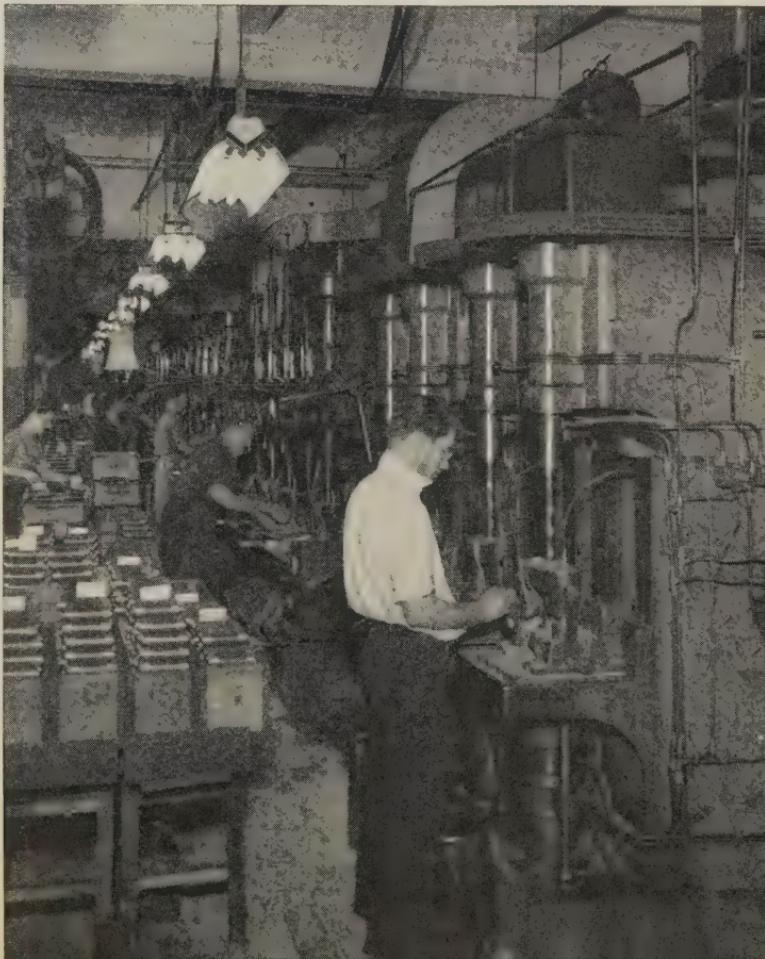
The Act normally applies to mines, agencies of transport and communication and certain public utilities, and with the consent of the parties its machinery may also be used in connection with disputes in other industries. At the beginning of the present war, its scope was extended to cover all disputes in industries producing munitions and war supplies or essential to the life of the community and in construction work on defence projects. Shortly afterwards the Government issued a declaration of principles for the regulation of labour relations in war-time, in which it was recommended to employers and workers that fair and reasonable standards of wages and other conditions should be established, that hours of work should not be unduly extended but a shift system should be established where possible, that every precaution should be taken to ensure safe and healthful conditions of work, that the right of workers to organize in trade unions and bargain collectively with their

employers should be recognized, that disputes should be settled by negotiation, with the assistance of the Government conciliation service or under the provisions of the Industrial Disputes Investigation Act and that collective agreements should provide for machinery for adjusting grievances.

The extension of the scope of the Industrial Disputes Investigation Act, together with the great expansion in industrial activity caused by the War, brought about such an increase in the number of applications for boards of conciliation and investigation that provision was made, in 1941, for informal inquiries into disputes by industrial disputes inquiry commissioners with a view to prompt settlement, if possible, without recourse to the more formal and expensive procedure of establishing a board. Commissioners may also be used to examine allegations of discrimination against workers for trade union activity and to inquire into any situation that appears to the Minister of Labour to be detrimental to the most effective use of labour in the War.

The increase during the War in the number of cases dealt with under the Act is indicated by the following figures. In the ten years immediately preceding the War, 1929-38, 215 applications were received for the establishment of boards and 92 boards were established. In four and a half years of war, from Sept. 1, 1939, to Mar. 20, 1944, 504 applications were received and 182 boards established. This increase took

Canada's immense production of war goods is attributable in no small measure to the energy and enterprise of individual workers. This bank of drill presses in an anti-aircraft shell department is operated by a minimum of staff, each man tending several machines at once.



place in spite of the fact that since October, 1941, disputes over wages have not been dealt with under the Industrial Disputes Investigation Act but by the National War Labour Board (see p. 150). The operation of the Act has been suspended for the period that the Wartime Labour Relations Regulations are in effect, except as to matters pending when the Regulations came into force on Mar. 20, 1944.

Employment and Unemployment

Employment in Canada in 1944

From early in 1939 the trend of employment in most industrial groups in the Dominion was upward, the rare interruptions in the generally buoyant movement being almost entirely due to seasonal fluctuations, whose influence during the War has, on the whole, been decidedly less than is the case under peace-time conditions. The peak of industrial activity was reached in the latter months of 1943; that the acceleration in the rate of expansion did not continue in 1944 was due in part to depletion in the available reserves of labour. The advances which were indicated in the latter year were accordingly on a much more moderate scale than in earlier phases of the War; only in the first quarter of 1944 was the index of employment higher than in the same period of 1943, although activity continued at an exceptionally high level in comparison with any preceding year. In the months Jan. 1-Oct. 1 (the period for which data are available at the time of writing), the index of employment, based on the 1926 average as 100, averaged 182.6 as compared with 183.0 in 1943, when, as already indicated, industrial employment reached an all-time maximum.

Employment generally in the first few months of 1944 showed continuous curtailment; beginning with June 1, however, there were seasonal increases during the next four months, although the gains were below-average in size, according to the experience of pre-war years, being also very decidedly smaller than those indicated in the same part of earlier years of the War. The trend at Oct. 1 was unfavourable, the curtailment being contra-seasonal. The index of employment each month from May 1 was lower than had been the case at the same date in 1943. Nevertheless, activity generally continued greater than in any previous year of the record.

Although the general index number of employment during the first ten months of 1944 averaged slightly lower than in 1943, the index of payrolls was maintained at a level a few points higher. However, in the early autumn the payroll curves for the two years tended to converge, partly because of diminishing amounts of overtime work, and also partly as a result of certain changes in the program of munitions production.

On the average, the establishments furnishing current statistics of employment and payrolls to the Dominion Bureau of Statistics during the first ten months of 1944 numbered 14,636; their working forces averaged 1,845,405. These persons received an average of \$58,591,100 in weekly salaries and wages in the same period, while the pay envelope of the typical person in recorded employment contained an average of \$31.76. In the same months of 1943, the average weekly earnings per employee had been \$30.61.

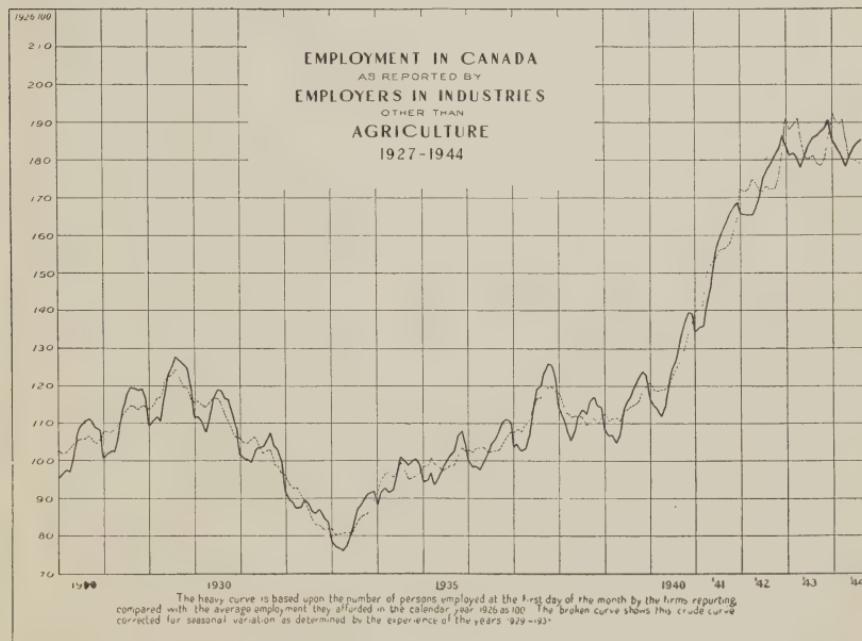
Employment in manufacturing during the War has shown unprecedented activity. From Sept. 1, 1939, the movement was almost continuously upward until the latter part of 1943; the rise in the curve in that year was much less spectacular than in any

earlier year since the outbreak of hostilities, due to some extent to shortages of labour and materials. Certain changes and modifications in the war production program also contributed to the result. The average index for the first ten months of 1944 showed no general change from that recorded for the same period of 1943.

Activity in factories turning out heavy manufactured goods has, for obvious reasons, been particularly great during the last five years. When war was declared, workers in this class constituted some 40 p.c. of the total persons reported in manufacturing, a proportion which had advanced to 57.4 p.c. at Oct. 1, 1943, when employment in the production of durable goods reached its all-time maximum. From that date to Oct. 1, 1944, the index declined by 8.6 p.c.

The marked increases in manufacturing generally during the War have been accompanied by relatively larger gains in the payrolls disbursed. Thus, from June 1, 1941 (when the current record of payrolls was instituted), the index of weekly salaries and wages rose almost without interruption to Dec. 1, 1943, when the advance amounted to 74 p.c.; the increase in the index of employment was 37 p.c. There was a minor falling off in both indexes as the year 1944 progressed.

Among the non-manufacturing industries, logging, transportation and communications reported considerably greater activity in the first ten months of 1944 than in the same months of 1943; in the case of the first two, employment was also in greater volume than in any earlier year. In mining and construction, the situation was not so favourable, mainly as a result of continued shortages of labour and materials. Employment in services and trade reached higher levels during 1944 than in any previous year.

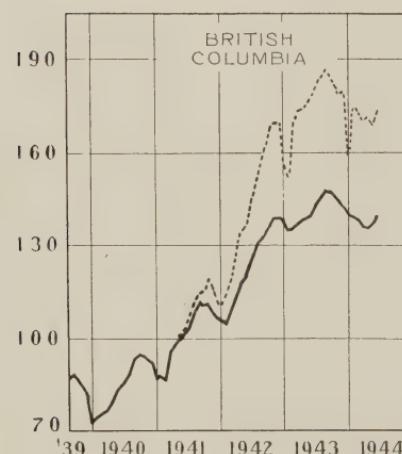
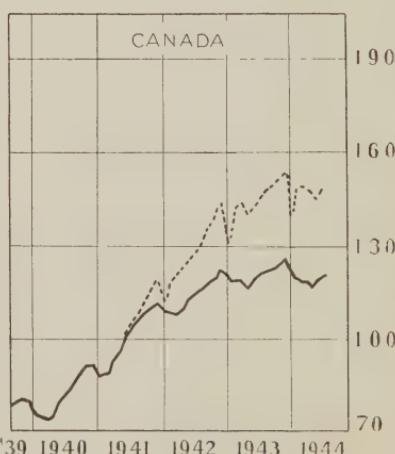
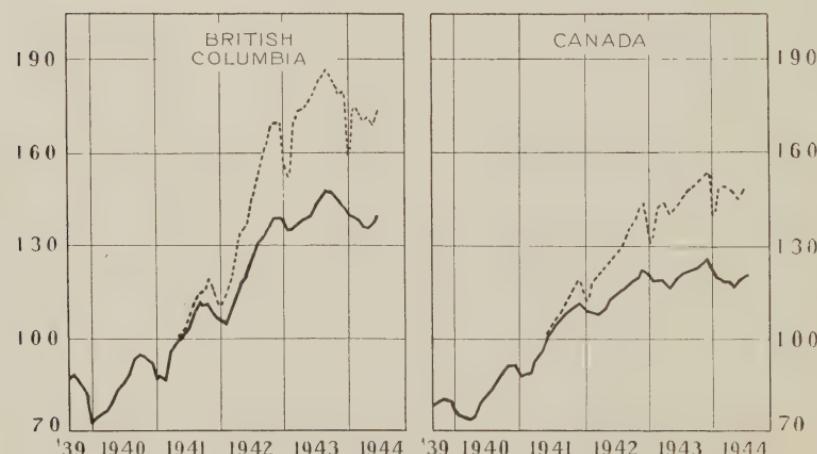
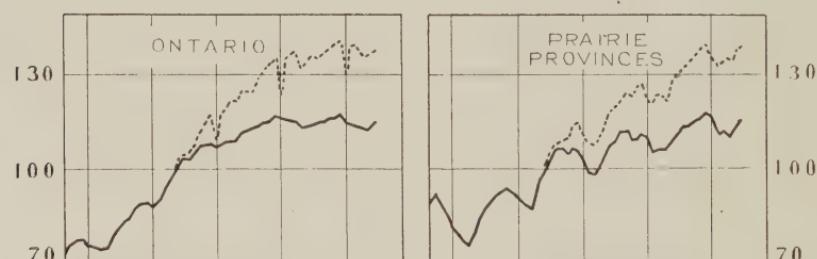
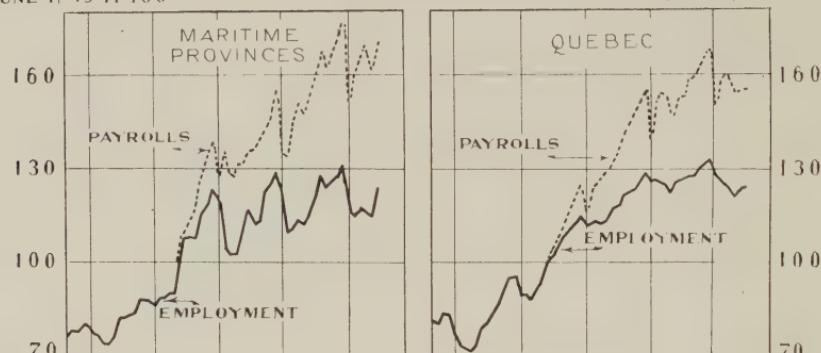


INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS
BY
ECONOMIC AREAS

JUNE 1, 1941=100

1939 - 1944

JUNE 1, 1941=100

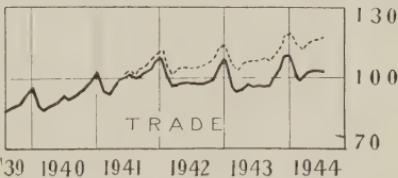
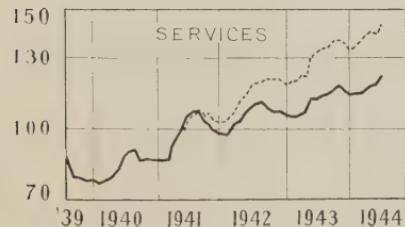
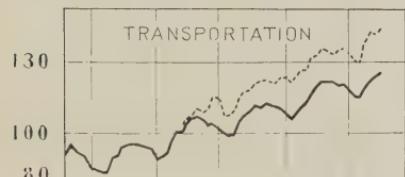
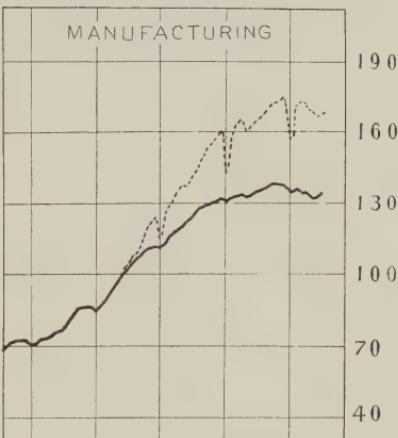
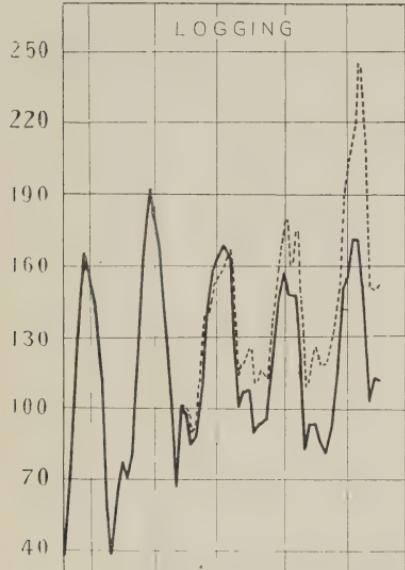
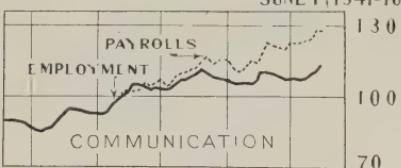


INDEX NUMBERS OF EMPLOYMENT AND PAYROLLS
BY
INDUSTRIES

JUNE 1, 1941=100

1939-1944

JUNE 1, 1941=100



Unemployment Insurance and National Selective Service

Unemployment Insurance.—The Unemployment Insurance Act, which became law on Aug. 7, 1940, authorized an Unemployment Insurance Commission to set up and administer a co-ordinated program of unemployment insurance and employment service. The Commission—consisting of a Chief Commissioner and two Commissioners (one Commissioner appointed after consulting employees and one after consulting employers)—was appointed on Sept. 24, 1940.

The Head Office of the Commission is at Ottawa. For the purpose of administration, Canada is divided into five areas known as: the Pacific, Prairie, Ontario, Quebec and Maritime regions. Regional offices located at Vancouver, Winnipeg, Toronto, Montreal and Moncton act as clearing houses for local offices, which are the units through which the employment service and unemployment insurance are operated. These local offices are operating in centres across Canada. The employment service of the Commission now functions as the field organization of National Selective Service.

As at Sept. 30, 1944, the number of registered employers with insured employees was 138,728 and the number of insured persons registered was 2,746,760.

Unemployment insurance contributions became payable in Canada commencing July 1, 1941. Insured workers and their employers make contributions according to a graded scale, but in the country as a whole they contribute approximately equal amounts. The Dominion Government adds one-fifth of the total amount contributed by employees and employers to the Unemployment Insurance Fund and, in addition, pays the administrative costs of the scheme.

WEEKLY RATES OF CONTRIBUTION AND BENEFIT UNDER THE UNEMPLOYMENT INSURANCE ACT

Class	Earnings in a Week	Weekly Contributions ¹		Denom- ination of Stamp ²	Weekly Benefit ³	
		By Employee	By Employer		Single Person	Person With One or More Depend- ants
0	Less than 90 cents daily (or under 16 years of age).....	\$ 4	\$ 0.27	\$ 0.27	\$ 4	\$ 4
1	\$ 5.40 to \$ 7.49.....	0.12	0.21	0.33	4.08	4.80
2	\$ 7.50 to \$ 9.59.....	0.15	0.25	0.40	5.10	6.00
3	\$ 9.60 to \$11.99.....	0.18	0.25	0.43	6.12	7.20
4	\$12.00 to \$14.99.....	0.21	0.25	0.46	7.14	8.40
5	\$15.00 to \$19.99.....	0.24	0.27	0.51	8.16	9.60
6	\$20.00 to \$25.99.....	0.30	0.27	0.57	10.20	12.00
7	\$26.00 or more.....	0.36	0.27	0.63	12.24	14.40

¹ The daily rate of contribution in respect of each class is one-sixth of the weekly rates. ² Unemployment insurance stamps combine both employer and employee contributions. ³ Rates calculated on assumption that person is in the same class for two years. Daily or weekly benefit for an insured person without dependants is 34 times his average daily or weekly contributions, and 40 times the average employee contribution for married persons mainly or wholly maintaining one or more dependants. ⁴ Workers in this class make no contributions and are not eligible for benefit. They may, however, accumulate benefit rights on the basis of employer contributions.

From July 1, 1941, to Sept. 30, 1944, \$232,809,346 was deposited in the Unemployment Insurance Fund. This amount includes employee, employer and Government contributions, and interest. Employer and employee contributions to the fund were \$186,539,387. In the same period, the Dominion Government contributed \$37,307,877 to the fund.

The first date on which claimants could qualify for benefit was Jan. 27, 1942. From that date to Sept. 30, 1944, the amount paid in insurance benefit was \$3,898,173. In this period there were 116,183 claims received at Insurance Offices for adjudication, 93,512 of which were allowed, 21,905 were not allowed and 766 were pending. In the same period the number of appeals made by claimants to the Courts of Referees and the number of cases referred to such Courts of Referees was 2,754, of which 2,442 were heard, 83 were pending on Sept. 30, 1944, and 229 were withdrawn. The Courts of Referees allowed 707 claims and disallowed 1,735.

The Unemployment Insurance Advisory Committee, established under the Act, gives assistance and advice on questions relating to the operation and scope of the Act referred to it by the Commission.

The National Employment Committee, representing labour, industry, veterans, women's organizations and other interested groups, assists the Commission in an advisory capacity in carrying out the purposes of the employment service. Five Regional Employment Committees and a number of Local Employment Committees have been set up to assist in this work.

National Selective Service.—Organization and allocation of Canada's manpower in such a way that it will contribute most effectively to the War is carried out chiefly under two sets of regulations: the National Selective Service Mobilization and the National Selective Service Civilian Regulations. These regulations are administered by the Director of National Selective Service who is responsible to the Minister of Labour. The Director is advised by a Selective Service Advisory Board consisting of representatives of Government departments and agencies, industry and labour. Under his jurisdiction there are several Associate Directors, who are in charge of the different aspects of the program, and there are also regional directors. Local administration of the mobilization side of the program is carried on through 13 Divisional Registrars and of the civilian side through Selective Service Officers who are the managers of the local Employment and Selective Service Offices.

Up to the present time, certain age and marital classes of men have been "designated", that is to say, have been legally required to comply with Mobilization Regulations and to undertake military service if they are medically fit. These classes may be described as follows:—

- (1) Every man who was born in any of the years 1913 to 1926 inclusive. Men born in the year 1926 are not required to produce evidence of compliance unless they have reached the age of 18 years and 6 months.
- (2) Every man who was born in any of the years 1906 to 1912 inclusive, and who :
 - (a) on July 15, 1940, was a widower without child or children; or
 - (b) on July 15, 1940, was a judicially separated man, with or without child or children; or
 - (c) on July 15, 1940, was an unmarried man; or
 - (d) on July 15, 1940, was a divorcee, with or without child or children; or
 - (e) since July 15, 1940, became divorced, whether or not he has a child or children; or
 - (f) since the 15th day of July, 1940, has been judicially separated, whether or not he has a child or children; or
 - (g) since the 15th day of July, 1940, became a widower without child or children.

In order to prevent the absorption into the Forces of men needed elsewhere, however, postponement orders may, under certain circumstances, be granted to men

employed in essential industries, seasonal occupations and agriculture. In addition, men who enlist in the Forces or are already serving may be granted leave to return temporarily to industry if they are urgently needed there.

On the purely civilian side, there are two aspects of the policy: control over the movement of workers and direction of certain workers into more essential jobs. The basis of the program is a carefully drafted schedule of labour priorities, which shows exactly which establishments should be given first call on available labour in any locality.

Control over the movement of workers has been possible chiefly because of the fact that, with some exceptions, all employers and workers are required to use the local employment offices. No worker can resign or be fired without giving or receiving seven days' notice of separation, a copy of which goes to the local office. Similarly, no employer may interview or engage any worker and no worker may seek or accept employment unless he has a permit from the local office. Any person who has attained his 16th birthday cannot leave Canada with the intention of seeking or entering into employment outside Canada except pursuant to a Labour Exit Permit issued to him by a Selective Service Officer. Advertising for workers is also carefully controlled and employers must requisition all the labour they need from the local offices. In addition, since Sept. 20, 1943, workers in establishments designated by the Director have not been able to resign or to be fired without the written permission of a Selective Service Officer.

Considerable numbers of workers have been compelled to leave their jobs and to take essential employment elsewhere. Since Oct. 7, 1943, the Selective Service Officers have had the power to direct any person employed in any industry specified by the Director to enter other employment in another or the same industry. Men between the ages of 18 and 64 who have experience in coal-mining and all men in Nova Scotia and New Brunswick who were formerly longshoremen may be directed back to employment in the mines or on the docks, as the case may be. Any man between the ages of 16 and 64 may be directed to accept employment in cutting wood fuel, fishing or fish processing.

Special steps have been taken to make available an adequate supply of labour for the farms. No farm worker may seek or accept employment outside agriculture without a permit, except short-term employment in seasonal industries, and former farmers have been returned to agriculture. Under agreements between the Dominion and the provinces, farm workers from one province have been moved to other provinces where they are more urgently needed. Soldiers, students and treaty Indians have also rendered valuable assistance to agriculture. Prisoners of war, Japanese and persons postponed from military training as conscientious objectors have, under specific regulations governing their employment, been used in agriculture and other essential work.

Employment and Selective Service Offices.—In the first eight months of 1944, Employment and Selective Service Offices received 1,647,554 applications for employment, were notified of 1,866,143 vacancies and effected 1,155,062 placements. During the same period of 1943, 1,867,932 applications for work, 2,120,868 vacancies and 1,331,482 placements were reported.

Canadian Vocational Training

Due to the changing aspects and enlarged responsibilities of the Training Branch of the Department of Labour it was considered advisable to group its various pro-



Women Loading an Express Shipment into a Railway Car.—During the war years it has been necessary for women to take over even the heavier jobs ordinarily carried on by men.

Courtesy, National Film Board

grams under one title that would more clearly identify its work, and the title "Canadian Vocational Training" was adopted. The War Emergency Training Program as well as the Youth Training Agreement and, more latterly, the responsibility for rehabilitation training will be identified with this name. Similarly, on Jan. 1, 1944, authority was given to the Minister of Labour to enter into 10-year agreements with the provinces in respect to apprentice training with those provinces that had or would enact apprenticeship legislation. British Columbia, Ontario and Nova Scotia already had Apprenticeship Acts, but since Jan. 1 all provinces except Quebec have passed Apprenticeship Acts and entered into agreements with the Dominion for enlarged activities in this field. The Dominion contribution for the fiscal year 1944-45 is set at \$250,000 to be matched by the provinces and for the next nine years the Dominion may contribute to a total of \$1,000,000 per annum, which amount is also to be matched by the provinces where such agreements exist.

War Emergency Training has continued during 1944 as provided for in the Vocational Training Co-ordination Act of 1942, but with considerably reduced activity. From Jan. 1 to Aug. 31, 1944, the total enrolments of industrial workers were only 18,115 as compared with 41,368 for the same period in 1943. Training was divided under three main divisions:

- (a) Full-time pre-employment classes lasting from two weeks to six months. The total enrolments in this division were 4,655, including about 1,430 women. Of the total, 3,926 trainees were placed in employment.
- (b) Part-time training, mostly of a technical nature, for persons already employed in industry, to facilitate and upgrade their promotion. Enrolment was approximately 4,013 including 762 women.

(c) Training in plant schools in industrial establishments. As of Aug. 31, 1944, 145 such plant schools had been officially approved and the total enrolments numbered 9,447 of which 4,702 were women. After the training periods these persons were transferred to regular production.

In addition, courses in Supervisory or Foremanship Training were continued under the titles of Job Instructor Training, Job Relations Training (2 series) and Job Methods Training. This type of training has greatly increased in industry and during 1944 has been taken up by an increasing number of Governmental Departments with good results. The total enrolment since the inception of this type of training in 1942 to Aug. 31, 1944, has been 59,863. It is quite evident that it will continue to serve a growing demand in the post-war period.

Rehabilitation Training, i.e., training for discharged members of the Armed Forces to put them on an independent earning basis, has been provided for 4,300 persons. This training, provided in co-operation with the Department of Pensions and National Health who select the trainees and approve the type of training to be given, is carried on in regular vocational schools, special Canadian Vocational Training centres or privately owned schools, but by far the greatest percentage, so far, has been done in industrial and commercial establishments.

Trades Training for members of the Armed Forces has continued, with the men being selected by their respective Services. With the curtailment of trades training requirements, this work was greatly reduced during 1944. From Jan. 1 to Aug. 31, 1944, training was provided for 8,889 from the R.C.A.F., 8,324 from the Army and 2,351 from the Navy.

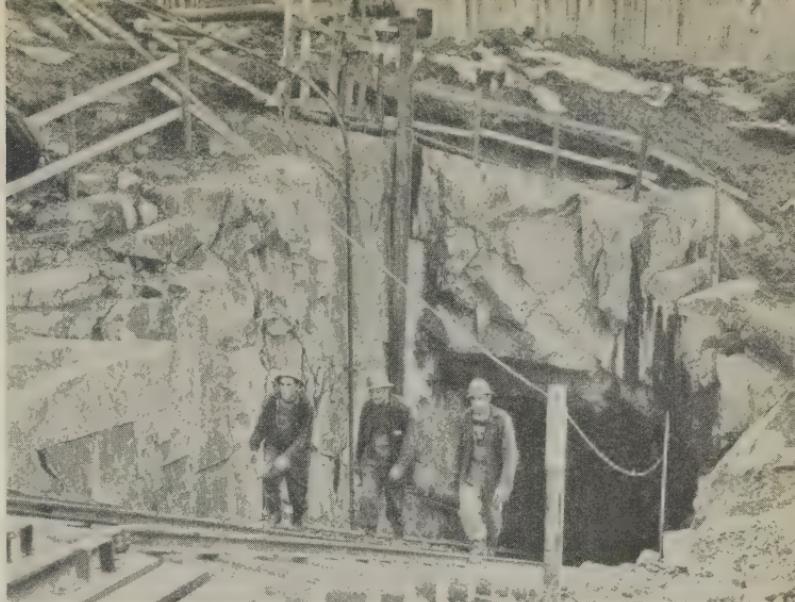
Youth Training for persons between 16 and 30 years of age has continued, but on a much smaller scale than in previous years. The program consisted mainly of special courses for rural young people and financial assistance to university



Young Farm Workers Gathering Potatoes.—To provide relief for the acute labour shortage, agricultural authorities are recruiting boys and girls for work on the farms.

The Mouth of the 1,200 ft. Tunnel Built at the South End of Finlayson Lake to Divert the Course of the Seine River.—For a description of the engineering project of which this forms a link, see special article on the Iron Ore Developments at Steel Rock Lake at pp. 44-51.

Courtesy,
Department of
Mines for Ontario



students, other than first year. Those in medicine, dentistry, engineering or science, as well as nurses in training in hospitals, whose services might be needed in a professional technical capacity in connection with the War, were assisted on recommendation of provincial and university committees. Physical education is now the responsibility of Department of National Health and Welfare under the Physical Fitness Act (see p. 38).

Unemployment in Trade Unions

Statistics are tabulated by the Department of Labour from reports furnished by the trade unions showing the unemployment existing among their members. At the close of June, 1944, reports were recorded from a total of 2,206 labour organizations in which the combined membership was 415,707 persons, of whom, 1,147, or a percentage of 0.3 were listed as unemployed. The percentage of those without work for the corresponding month in the year 1943 was 0.6 and in 1942 was 2.5.

The unemployment percentage at that date was the same as that for September and October, 1943, and indicated an employment level higher than at any other time in the record. The highest percentage of unemployment in these records was for December, 1932, and January, 1933, when the figure was 25.5.

Old Age Pensions and Pensions For Blind Persons

The Old Age Pensions Act, 1927.—The Act provides for a Dominion-Provincial system of non-contributory old age pensions in such provinces as have enacted and given effect to special legislation for this purpose. The provinces are charged with the payment of pensions, the Dominion reimbursing each province, quarterly, to the extent of 75 p.c. of the net cost of its payments on account of old age pensions. All the provinces are now operating under such agreements. Old age pensions are also payable in the Northwest Territories. Authority was given in 1927 to the Gold Commissioner of the Yukon to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act, but no scheme has as yet been formulated.

Pensions for Blind Persons.—By an amendment to the Old Age Pensions Act, assented to Mar. 31, 1937, provision is made for the payment of pensions, under

CANADA 1945

certain conditions, to blind persons who have attained the age of forty years. All provinces have made agreements with the Dominion for the payment of pensions in respect of blindness. Under the terms of the agreements the Dominion pays 75 p.c. of the net amount paid out by the provinces for pensions. The payment of pensions in respect of blindness in the Northwest Territories has also been authorized. The maximum pension payable to old age and blind pensioners is \$300 a year, subject to reduction by the income of the pensioner in excess of certain specified amounts.

Summary of Old Age Pensions and Pensions for Blind Persons, 1928-44

NOTE.—The effective dates of commencement of Old Age Pensions and Pensions for Blind Persons in the various provinces were, respectively, as follows: P.E.I.—July 1, 1933, Dec. 1, 1937; N.S.—Mar. 1, 1934, Oct. 1, 1937; N.B.—July 1, 1936, Sept. 1, 1937; Que.—Aug. 1, 1936, Oct. 1, 1937; Ont.—Nov. 1, 1929, Sept. 1, 1937; Man.—Sept. 1, 1928, Sept. 1, 1937; Sask.—May 1, 1928, Nov. 15, 1937; Alta.—Aug. 1, 1929, Mar. 7, 1938; B.C.—Sept. 1, 1927, Dec. 1, 1937; N.W.T.—Jan. 25, 1929, Mar. 30, 1938.

Year ended Mar. 31—	Old Age Pensions		Pensions for Blind Persons	
	Pensioners	Dominion Government Contributions ¹	Pensioners	Dominion Government Contribution ¹
	No.	\$	No.	\$
1928.....	2,712	131,452	—	—
1929.....	10,588	832,687	—	—
1930.....	42,553	1,537,174	—	—
1931.....	57,930	5,658,143	—	—
1932.....	67,006	10,032,410	—	—
1933.....	71,705	11,512,543	—	—
1934.....	86,873	12,313,595	—	—
1935.....	101,051	14,952,459	—	—
1936.....	108,415	16,764,484	—	—
1937.....	146,524	21,149,352	—	—
1938.....	175,673	28,524,587	1,946 ²	128,418 ²
1939.....	181,514	28,283,284	4,512	760,354
1940.....	186,035	29,080,631	5,404	895,923
1941.....	185,946	28,901,933	5,913	1,009,767
1942.....	185,922	28,530,908	6,243	1,080,889
1943.....	183,601	28,861,186	6,374	1,114,828
1944.....	181,384	32,195,592	6,374	1,244,030
Government Contributions from Inception of Act.....	—	299,252,417	—	6,234,210

¹ 50 p.c. of net cost of payments to Oct. 31, 1931, and 75 p.c. thereafter.
² First year for complete statistics, see headnote.

Old Age Pensions and Pensions for Blind Persons, by Provinces, as at Mar. 31, 1944

Province or Territory	Old Age Pensions		Pensions for Blind Persons	
	Pensioners	Average Monthly Pension	Pensioners	Average Monthly Pension
	No.	\$	No.	\$
Prince Edward Island.....	1,888	18.53	111	22.41
Nova Scotia.....	13,838	18.06	633	21.21
New Brunswick.....	11,843	17.69	710	23.28
Quebec.....	47,153	22.54	2,250	24.37
Ontario.....	56,156	23.09	1,449	24.19
Manitoba.....	12,188	23.41	339	24.22
Saskatchewan.....	12,755	23.00	317	24.54
Alberta.....	11,071	22.82	242	24.15
British Columbia.....	14,481	23.55	323	24.19
Northwest Territories.....	11	24.55	Nil	—
Totals.....	181,384	—	6,374	—

CHAPTER XII

Construction

Government Assistance to and Control of Construction in War-time

Peace-time measures of the Dominion Government designed to improve housing conditions and to stimulate the building industry during the depression years preceding the War have been fitted into the requirements of war-time where possible. Where they have served their purpose or where they represented a drain on the financial, material or labour resources of the country they have been discontinued.

The National Housing Act, 1938.—The most important of these measures is the National Housing Act, which succeeded the Dominion Housing Act, 1935. The purposes of the legislation and the conditions under which loans can be made have been dealt with in previous editions of the Handbook.

To Aug. 31, 1944, 21,911 loans made under the Dominion Housing Act and Part I of the National Housing Act, and actually proceeded with, amounted to \$87,727,180. These loans provided a total of 26,515 family units. In the 1944-45 Estimates a further \$2,000,000 was appropriated to assist in the construction of new low-cost houses under the National Housing Act. Houses built under this appropriation must be located in areas where a shortage of permanent housing exists, upon sites having the essential services already installed. So far as possible these houses must be constructed of materials that are not essential to the war effort. Loans from this new appropriation are limited to \$4,000.

The National Housing Act, 1944.—The National Housing Act, 1944, which was passed by Parliament on Aug. 11, 1944, is divided into six parts and will be administered by the National Housing Administration, Department of Finance.

Part I of this Act is similar to Part I of the National Housing Act, 1938, but has been modified and expanded in certain important details.

Loans are still made by the Government and approved lending institutions jointly to the prospective home owner or to a builder. Under the new Act, the minimum loan has in all cases been made 50 p.c. of the lending value. The maximum loan has been increased so that it is now 95 p.c. of the first \$2,000 of lending value, plus 85 p.c. of the next \$2,000, plus 70 p.c. of any lending value in excess of \$4,000. The interest rate has been lowered from 5 p.c. to 4½ p.c., calculated semi-annually. The term of the loan is, in ordinary cases, twenty years; however, under certain circumstances it may exceed twenty years but must not be in excess of thirty.

The loans are repayable in monthly instalments of principal and interest. In addition the borrower each month pays one-twelfth of the estimated annual taxes and the lending company then pays the taxes as they become due.

The new Act provides \$100,000,000 for loans to home owners and for paying losses in respect of these loans and those made under the Dominion Housing Act, 1935, and the National Housing Act, 1938.

Part II provides for two types of loans: (1) Loans for ordinary rental housing projects which are made generally upon the same conditions as loans under Part I of the Act. The differences are that the maximum loan is 80 p.c. of the lending value

and that in properly planned and zoned areas the maximum term of the loan is twenty-five years. (2) Loans to limited dividend housing corporations for low-rental housing projects to ensure that people of low income are adequately housed.

A loan to a limited dividend housing corporation is made directly by the Dominion Government and may be for 90 p.c. of the lending value of the project at an interest rate of 3 p.c. per annum.

The amount appropriated for loans and guarantees under this Part is \$50,000,000.

Part III of the Act is designed to extend the provisions of Part I to rural areas. By this Part the Minister is authorized to pay a lending company up to \$20, together with travelling expenses, for making loans in rural or remote areas.

In contrast to the monthly payments required from other borrowers under Part I, a farmer's mortgage may provide for periodic payments which will coincide with the times at which he receives his income.

If the farmer already has a mortgage upon his farm with an approved lending institution, this mortgage may be consolidated with one to be made under the Act to assist in the construction of a house upon the farm. The Government's advance and share in any subsequent loss is limited to the joint loan.

Part IV provides for loans by banks or approved instalment credit agencies for home improvement and home extension loans. Loans bear interest at 5 p.c. per annum. A home improvement loan must not exceed \$2,000 on a single-family dwelling or \$2,000 plus \$1,000 for each additional family housing unit in a multiple family dwelling. A home extension loan must not exceed \$3,000 for the first family housing unit created in the house and \$1,000 for each additional family housing unit. These loans are from a maximum term of three to five years. The total amount of loans which may be guaranteed is \$100,000,000 and the Government's guarantee is 5 p.c. of the total amount of loans made by a bank or approved credit agency.

Part V provides for research into housing construction and materials and for a survey of housing conditions in Canada and also for assistance by the Dominion in community planning.

Part VI permits the establishment of a plan of reducing term insurance to pay a loan in the event of the death of the borrower.

The Home Extension Plan, 1942.—To further alleviate the housing shortage provision was made in the 1942-43 Estimates for the Dominion Government to guarantee, upon an arrangement similar to the Home Improvement Loans Guarantee Act, loans made by the chartered banks for the purpose of financing the creation of new housing units in existing dwellings. These loans, which are limited to an aggregate of \$2,000,000 with a maximum liability on the part of the Government of \$300,000, may be made only in areas designated by the Minister of Finance as those in which a housing shortage exists or impends. These loans may be made to an owner of the property or a purchaser under an agreement of sale that has been in existence for one year before the loan is granted. Approval of the proposed alterations must be obtained from the Minister. To Oct. 31, 1944, 59 loans providing 114 units and amounting to \$112,725 had been made under the Plan.

Housing Conversion Plan.—As another means of supplying accommodation, the Housing Conversion Plan has been established. Under this plan the Minister of Finance is authorized to lease buildings from their owners for a period of five years with the right to renew the lease for a further period of three years. Additional housing units are then created in these buildings and sub-leased to suitable tenants.

Prefabricated Houses

The housing emergency has resulted in a renewed interest in prefabrication. In Canada, however, with its generally severe winters and extremes of climate, prefabricated dwellings of the types popular in certain other countries have not been greatly favoured for year-round dwellings except as a temporary expedient for meeting a war emergency. The illustrations show successive steps in the building of a four-room frame bungalow. This particular house, aside from the foundation, was built in a single working day in order to illustrate the speed with which the work could be done.

Top: Laying floor panels, consisting of joists and sub-flooring on a concrete block foundation.

Centre: Walls, consisting of 2" thick interlocking grooved wall planks, are completed with doors and windows installed and roof panels are being set on prefabricated roof trusses. The roof is subsequently shingled in the conventional manner.

Bottom: The house, complete with lawn and window boxes.



The average estimated cost per unit in each building is not to exceed \$1,500, save for units having two or more bedrooms where the estimated cost may be \$2,000. Upon the termination of the lease, the building is returned to the owner in its then existing condition. The Minister reserves the right to cancel the lease at any time upon thirty days' notice. To Oct. 31, 1944, the plan had been brought into force at Ottawa, Vancouver, Victoria, Toronto, Montreal, Quebec, Hamilton, St. Catharines, Brantford, London, Sarnia, Windsor, Edmonton, Calgary, Winnipeg, Fernie, Moncton, Kingston, Trenton, Brockville, and Gananoque, and municipalities contiguous to each of these cities. It is expected that other cities will be added.

Government Control of Civilian Construction Since the Outbreak of War.—Owing to the demands on materials and labour brought about by the sudden expansion of the direct war industries, it was found necessary to control new construction, repairs to buildings, expansion or replacement of existing facilities, or new installation of equipment. This control was put into force in May, 1941, by means of a licensing provision, and the control was centred under the Priorities Officer of the Department of Munitions and Supply. In August of that year a Controller of Construction was appointed. In January, 1942, this control was broadened to include the control over materials and their use.

A policy of rigid curtailment has been followed in order that construction for war purposes might have precedence. In October, 1942, it was necessary to further curtail such construction and the monetary limits under which such work or expansion of facilities could proceed without licence was drastically reduced. The lowering of the limits brought a close control on the expansion of retail and wholesale outlets, as well as the manufacturing facilities, and also governed the construction of housing.

In 1943, a branch of the control was instituted to ensure that all construction be carried out in the most economical method in regard to the supply of materials.

Construction for War Purposes.—Construction for war purposes may be divided into the following groups:—

- (1) Department of National Defence (Air): (a) Additional accommodation, training facilities and alterations at various air training schools under the British Commonwealth Air Training Command; (b) Additional accommodation, training facilities and alterations under the Home War Establishment for Air.
- (2) Department of National Defence (Army): Additional accommodation, training facilities and alterations to various military training centres, plus the conversion of existing training centres into casualty retraining centres. Also the construction of hospitals and the conversion of certain types of buildings into hospitals.
- (3) Department of National Defence (Navy): Construction of naval projects including harbour installations.
- (4) Department of Munitions and Supply: Alterations and additions to existing industrial plants and repairs to wharves and docks on the East Coast.
- (5) Wartime Housing Limited: Provision of necessary housing incidental to industrial expansion for war purposes.

Construction contracts for the groups (1) to (4), handled by the Department of Munitions and Supply, numbered 1,180 for the calendar year 1943 and amounted to \$96,296,462. From January to Oct. 15, 1944, 555 contracts were awarded, totalling \$27,322,707; the estimate for the remainder of the year is 200 contracts totalling \$5,000,000.

Contracts under (5) are let by Wartime Housing Limited, a Crown company, established under the Department of Munitions and Supply for the purposes specified. Such housing expenditures to Dec. 31, 1943, amounted to \$59,852,495. It is estimated that Wartime Housing expenditures in 1944 will amount to approximately \$11,000,000.

General Statistics of Construction

Statistics of the construction industry show that in 1943 there were decreases in the value of work performed and in the number of persons employed. By the end of 1941 Canada had passed the peak of her war construction and since that time the value of construction as a whole has declined by about 11 p.c. From 1941 to 1943, industrial construction (including factories, warehouses, mine buildings, etc.) declined by 21 p.c. and residential construction by 27 p.c.

Of the 1943 total value of work performed, 74 p.c. was represented by entirely new construction; the remainder was for alterations, repairs, maintenance, etc. Building construction accounted for 53 p.c. and engineering contracts for 36 p.c.

Building Permits.—The Dominion Bureau of Statistics collects monthly statistics showing the anticipated cost of the building represented by the permits taken out in 58 cities, the record going back to 1920. The value of such work was \$89,504,905 for the first eleven months of 1944, as compared with \$55,949,687 for the same period of 1943. The population of the 58 centres mentioned constituted about 36 p.c. of the total population; for Jan. 1 to Nov. 1, 1944, their building authorizations amounted to 30.7 p.c. of the total value of the construction contracts awarded for the same period throughout Canada.

Railways.—The expenditures of railways on maintenance of way, and structures and equipment are not included in the census figures of the construction industries given at p. 169 and are therefore summarized here. For steam railways expenditures for these purposes in 1943 amounted to \$278,275,622 as against \$219,276,767 in 1942

Modern Construction Makes Great Demands on Timber Resources for the Building of Frames and Forms.—This illustration shows the erection of a framework of timbers to guide the diamond drilling of the rock cut east of Raft Lake, Steep Rock Lake development.

Courtesy, Department of Mines and Resources



and \$194,000,000 in 1929. For electric railways the total for 1942 was \$8,995,478 as against \$7,532,510 in 1941 (1943 figures were not available at time of going to press). Expenditures on new lines amounted to 71,383 and additions and betterments showed a credit of \$8,890,247 (exclusive of equipment) in 1943 compared with \$6,418,260 in 1942.

Statistics of the Construction Industry, 1943, with Totals for 1936-42

Year, Province and Group	Persons Employed	Salaries and Wages Paid	Cost of Materials Used	Value of Work Performed			
	No.	\$	\$	\$			
Totals, 1936.....	142,346	112,846,384	122,189,238	258,040,400			
Totals, 1937.....	151,652	150,637,291	175,844,435	351,874,114			
Totals, 1938.....	147,191	147,405,398	176,562,208	353,223,285			
Totals, 1939.....	148,414	153,442,443	189,497,342	373,203,680			
Totals, 1940.....	149,830	180,229,498	267,228,786	474,122,778			
Totals, 1941.....	176,358	235,631,781	370,188,739	639,750,624			
Totals, 1942.....	175,267	262,043,471	324,732,380	635,649,570			
Province, 1943							
Prince Edward Island.....	425	609,109	983,147	1,645,660			
Nova Scotia.....	16,149	18,448,090	19,904,253	40,667,401			
New Brunswick.....	3,918	5,377,254	6,091,968	12,006,608			
Quebec.....	47,848	74,778,204	80,087,983	159,875,335			
Ontario.....	51,998	83,626,855	104,661,068	216,715,281			
Manitoba.....	5,192	8,352,729	10,136,198	20,190,673			
Saskatchewan.....	3,162	4,578,703	4,362,414	11,128,058			
Alberta.....	6,543	10,621,864	10,880,034	25,142,003			
British Columbia and Yukon.....	20,065	40,443,227	41,781,319	85,055,532			
Totals, 1943.....	155,300	246,836,035	278,888,384	572,426,551			
Group, 1943							
Contractors, builders, etc.....	121,482	214,501,738	262,419,986	510,998,908			
Municipalities.....	9,894	12,794,321	5,749,742	19,946,581			
Harbour Commissions.....	629	825,695	261,610	1,139,984			
Provincial Govt. Depts.....	20,754	15,198,774	8,300,419	34,109,733			
Dominion Govt. Depts.....	2,541	3,515,507	2,156,627	6,231,345			

Values of Construction, by Types, 1943 as Compared with 1942

Type of Construction	1943	1942	Increase or Decrease
	\$	\$	\$
Residential.....	63,684,367	76,346,090	-12,661,723
Institutional.....	13,148,233	14,246,025	-1,097,792
Commercial.....	26,439,561	30,638,095	-4,198,534
Industrial (includes factories, warehouses, mine buildings, etc.).....	140,396,554	159,346,630	-18,950,076
Other (includes armouries, barracks, hangars, etc.).....	58,216,173	71,197,840	-12,981,667
Totals, Building Construction.....	301,884,888	351,774,680	-49,889,792
 Streets, highways, etc.....	 66,582,959	 59,619,536	 + 6,963,423
Bridges, watermains, sewers, dams, reservoirs, etc.....	30,250,377	34,044,730	-3,788,353
Electric stations and transmission lines.....	30,843,814	60,697,808	-29,853,994
Docks, wharves, piers, etc.....	10,282,332	10,099,471	+ 182,861
Other engineering (includes landing fields, parks, canals, dredging, pile driving, etc.).....	65,562,348	52,817,517	+12,744,831
 Totals, Engineering.....	 203,527,830	 217,279,062	 -13,751,232
 Totals, Building Trades.....	 67,013,833	 66,595,828	 + 418,005
 Grand Totals.....	 572,426,551	 635,649,570	 -63,223,019

CHAPTER XIII

External Trade

The War has altered the structure of world trade, and Canada, being a leading trading nation, has been immediately affected. The value of both imports and exports has increased rapidly each year since 1939 and in 1943 Canada's total trade, excluding gold, reached a record value of over \$4,736,000,000. Imports valued at \$1,735,000,000 exceeded those of 1942 by over \$90,000,000 and the 1939 value by almost \$1,000,000,000, while domestic exports at \$2,971,000,000 were over \$607,000,000 greater than in 1942 and more than \$2,000,000,000 higher than in 1939. The excess of total exports over imports in 1943 reached a new high level at \$1,266,000,000 compared with \$741,000,000 in 1942 and \$185,000,000 in 1939.

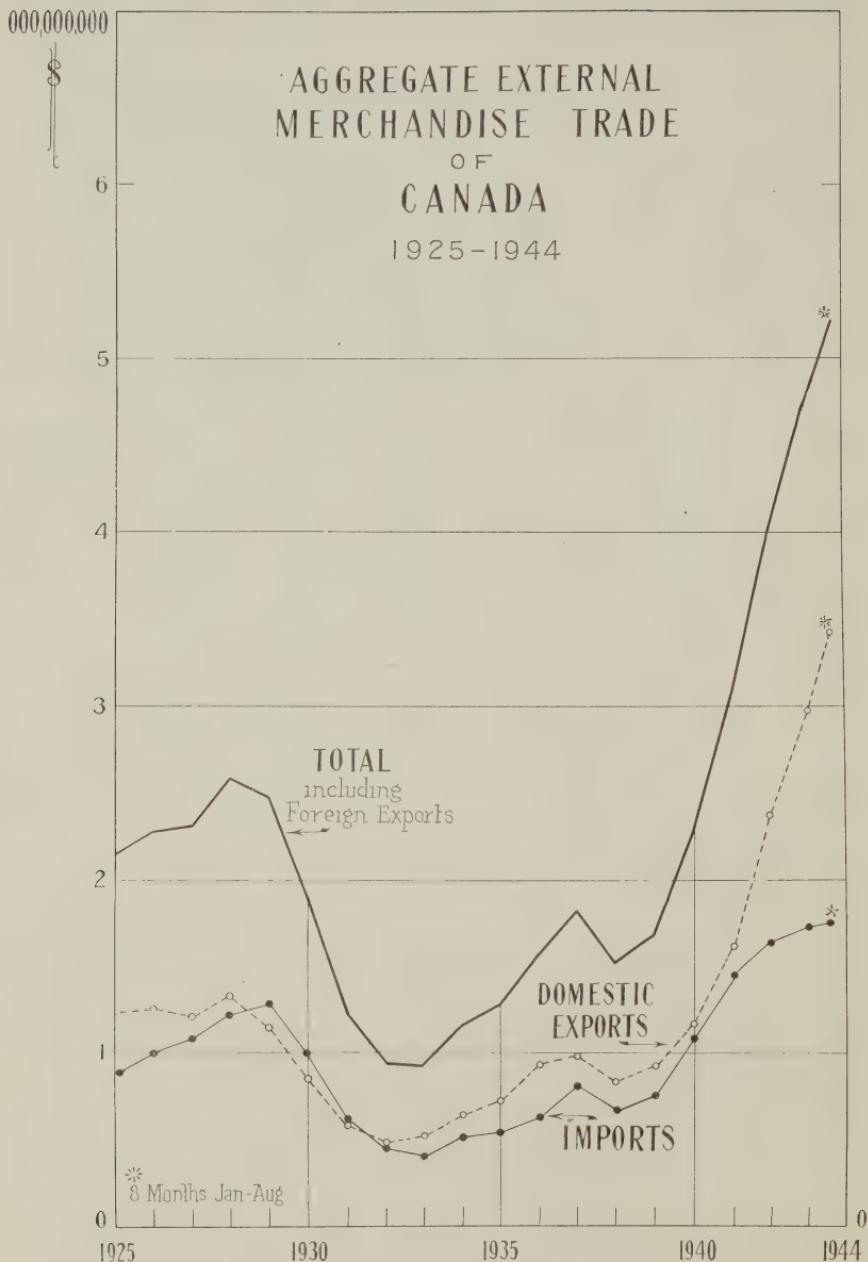
Available statistics for the first eight months of 1944 would indicate that imports are only slightly greater than in 1943, while exports have again shown a phenomenal increase, being over \$400,000,000 higher than during the comparable period of 1943.

Year	Imports	Domestic Exports (Millions of Dollars)	Foreign Exports	Total Trade
1938.....	677.5	837.6	11.1	1,526.2
1939.....	751.1	924.9	11.0	1,687.0
1940.....	1,081.9	1,179.0	14.3	2,275.2
1941.....	1,448.8	1,621.0	19.5	3,089.3
1942.....	1,644.2	2,363.8	21.7	4,029.7
1943.....	1,735.1	2,971.5	29.9	4,736.5
1944 ¹ (eight months).....	1,170.3	2,282.0	27.7	3,480.0

¹ Preliminary.

Imports.—During 1943 few significant changes have occurred either in the source or character of imports. The trend has been only slightly upward as indicated by the increase of \$90,000,000 over 1942 or only 5.5 p.c. The demand for imports is closely related to the war production program. Imports of machinery, machine tools, dies and other factory equipment have been an important element in the increases during the earlier years of the War. But, as munitions production has expanded, imports of materials, fuel and components have grown rapidly and represent a major part of the increases in 1942 and 1943. The comparative stability of imports during the past two years has continued into 1944, the value for the first eight months amounting to \$1,170,000,000 as compared with \$1,140,000,000 during the same period of 1943.

The table on p. 173 outlines the imports under main commodity groups since the beginning of the War. Agricultural and vegetable products were higher, mainly due to increased imports of fresh fruits and vegetables. In the fibre and textile group, substantial increases were shown in cotton (both raw and in fabrics), raw wool and woollen piece goods as well as in flax and other vegetable fibres. The iron group reflects the demand for factory equipment and raw materials and components for munitions and military vehicles. Large increases were recorded in imports of iron ore and semi-manufactured products such as ingots, billets, castings, forgings, bars, rods, sheets, plates and structural forms. Expansion of plant equipment is reflected in the increased volume of machinery and tools of all kinds, particularly metal-working, while increasing production of military vehicles is indicated by the high level of imports of engines, automobile parts and bearings. Under the



non-ferrous metal group, the largest increases were recorded by bauxite ore for aluminum, and radio, wireless and other electrical apparatus. Coal and crude petroleum recorded the largest increases in the non-metallic mineral group. Under miscellaneous commodities, a large proportion consists of imports of aircraft, war materials under special Orders in Council for war contracts and for the account of Allied Governments, and articles for the Armed Forces of the British Government.

Imports by Main Groups, 1939-43

(Millions of Dollars)

Group	1939	1940	1941	1942	1943
Agricultural and vegetable products.....	127.8	157.3	171.8	147.7	176.4
Animals and products.....	32.8	35.4	34.9	34.9	36.6
Fibres and textiles.....	100.9	147.3	161.1	189.1	195.3
Wood and paper.....	33.7	38.1	36.7	38.2	40.3
Iron and its products.....	183.2	298.9	431.6	377.8	420.2
Non-ferrous metals.....	42.1	71.1	94.8	82.4	115.5
Non-metallic minerals.....	132.8	161.2	190.0	221.3	250.9
Chemicals and allied products.....	43.7	51.8	65.4	66.8	70.6
Miscellaneous commodities.....	54.1	120.8	262.5	486.0	429.3
Totals.....	751.1	1,081.9	1,448.8	1,644.2	1,735.1

Exports.—The phenomenal expansion of Canadian exports during 1942 continued unabated in 1943. The value of domestic exports was \$607,000,000 greater than in 1942, and the first eight months of 1944 (latest figures available) recorded a further increase of \$400,000,000 over the same period of 1943. The high level of exports

Rows of these freight sheds at every sea port in Canada contain an enormous array of products brought in at great risk and in face of the hazards of war from other countries for distribution to Canadian consumers. Bags of coffee beans from Brazil are in the foreground.



Courtesy, National Film Board

is a clear indication of the volume of war materials supplied to the Armed Forces of the United Nations, supplemented by heavy shipments of foodstuffs and essential civilian goods. In the month of May, 1944, immediately preceding the invasion of France, domestic exports reached the all-time high value of \$368,000,000. Relaxation of censorship regulations permits the publication of trade by commodities and the following table summarizes the main items of foods, munitions, war materials and essential goods that have played such an important part in the growth of exports.

Domestic Exports of Foods, Munitions and War Materials, 1939-43
(Millions of Dollars)

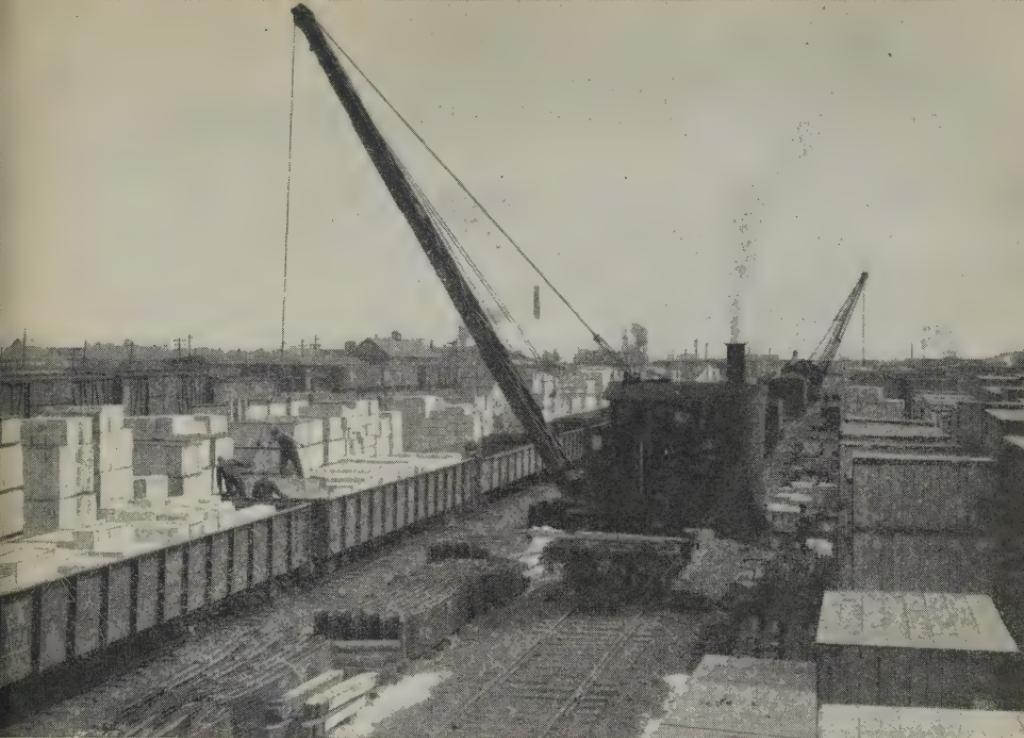
Item	1939	1940	1941	1942	1943
Barley.....	7.9	1.1	2.0	5.1	32.4
Oats.....	4.1	6.2	3.3	6.8	42.3
Wheat.....	109.0	119.5	161.9	121.8	234.5
Flour.....	16.4	26.4	44.8	45.8	66.3
Fish, canned.....	9.3	9.8	16.4	20.0	21.0
Bacon.....	32.7	58.8	77.5	100.6	116.1
Cheese.....	12.2	15.7	13.6	26.9	26.8
Milk, processed.....	3.3	4.3	7.2	6.8	5.2
Eggs, fresh and powdered.....	0.3	2.8	4.2	9.8	15.1
Planks and boards.....	48.8	67.7	74.2	80.1	74.2
Pulpwood.....	11.9	12.5	15.9	20.3	18.6
Wood-pulp.....	31.0	60.9	85.9	95.3	100.0
Newspaper.....	115.7	151.4	154.4	141.1	144.7
Pigs, ingots, blooms and billets.....	5.2	12.9	21.8	20.5	22.7
Motor-vehicles and parts (includes trucks, carriers, tanks, etc.).....	25.9	65.6	153.7	328.3	502.6
Guns.....	1	2.7	13.0	73.7	143.9
Aluminum.....	26.4	34.3	77.2	117.3	129.3
Copper.....	53.2	52.7	43.3	35.1	30.8
Lead.....	9.9	9.5	13.5	15.7	9.6
Nickel.....	57.9	61.2	67.7	68.4	68.3
Zinc.....	9.9	12.0	12.3	15.1	16.5
Radio and wireless apparatus.....	0.1	0.1	0.7	21.9	36.2
Asbestos.....	15.8	15.8	19.6	22.1	22.5
Abrasives.....	4.6	7.7	11.1	15.0	17.6
Explosives.....	0.6	2.8	20.2	24.3	17.3
Fertilizers.....	9.2	8.6	10.3	10.0	18.1
Ships.....	0.5	0.1	2.0	106.8	88.9
Aircraft and parts.....	0.4	6.0	20.2	27.0	44.7
Canadian Army and Navy stores.....	1	2.5	40.3	55.1	48.6
Cartridges and shells.....	0.8	12.5	41.9	300.4	353.9
Totals, Domestic Exports.....	924.9	1,179.0	1,621.0	2,363.8	2,971.5

¹ Less than \$50,000

Trade by Countries.—Of Canada's total imports in 1943 of \$1,735,000,000, the United States supplied \$1,424,000,000 or 82.1 p.c., while the United Kingdom supplied \$135,000,000 or 7.8 p.c. Thus, the two countries accounted for almost 90 p.c. of all imports. The proportion in 1939 was 15.2 p.c. from the United Kingdom and 66.1 p.c. from the United States.

Of total domestic exports in 1943 of \$2,971,000,000, the United States took \$1,149,000,000 or 38.7 p.c. and the United Kingdom took \$1,033,000,000 or 34.8 p.c., the two together taking 73.5 p.c. of all exports. Thus, almost 80 p.c. of Canada's foreign commerce was with these two countries.

Imports from Empire countries other than United Kingdom dropped from \$113,000,000 in 1942 to \$104,000,000 in 1943, while those from foreign countries other than United States increased to \$73,000,000 in 1943 from \$66,000,000 in 1942.



Armoured vehicles, which form a large part of Canada's exports, awaiting shipment at an Ontario freight yard.

Courtesy, Canadian National Railways

Exports to other Empire countries amounted to \$369,000,000 in 1943 compared with \$412,000,000 in 1942 whereas exports to other foreign countries increased from \$324,000,000 in 1942 to \$421,000,000 in 1943.

The preponderance of war materials in Canadian exports is indicated by the following table showing exports to various Allied Nations and theatres of war.

Domestic Exports to Allied Nations and Theatres of War, 1939-43

(Millions of Dollars)

Country	1939	1940	1941	1942	1943
United States.....	380.4	443.0	599.7	885.5	1,149.2
United Kingdom.....	328.1	508.1	658.2	741.7	1,032.6
British India.....	5.2	11.2	38.0	167.9	134.6
French Africa.....	0.1	Nil	0.2	0.6	71.3
Russia.....	0.3	"	5.3	36.6	57.7
Australia.....	32.0	33.9	37.3	78.9	46.7
Newfoundland.....	8.5	12.6	31.9	50.8	43.5
British South Africa.....	18.0	37.9	36.1	27.5	35.6
New Zealand.....	12.0	9.8	10.0	30.3	28.1
Iraq (Mesopotamia).....	Nil	0.1	1.2	20.2	22.1
British East Africa.....	0.8	4.8	3.9	5.1	18.7
Turkey.....	Nil	Nil	Nil	0.4	14.5
Italy.....	2.2	0.9	"	Nil	8.8
Ceylon.....	0.4	0.4	0.3	1.3	7.4
China.....	2.6	2.5	6.6	7.8	Nil



Powerful mobile cranes transfer war materials manufactured in all parts of Canada from railway cars to steamships for transport to Allied Nations.

Courtesy, Canadian National Railways

Shipments to China, interrupted during 1943, have been resumed and amounted to \$14,900,000 during the first eight months of 1944 while shipments to Italy have increased to \$113,500,000 during the same period.

Non-Commodity Items of Foreign Exchange

A nation's commodity trade alone cannot be taken as a complete index of its prosperity, for there are many other exchanges besides those of goods, all of which must be taken into account in order to find out the basic state of affairs in regard to total international transactions.

The Tourist Trade

The growth of tourist travel in Canada, to the point where it became one of the nation's great 'service' industries, was a remarkable development in pre-war years. Tourist expenditures are, in part, the return that Canada derives from scenic attractions, fish and game, summer and winter sports activities and other attractions. The War has, of course, curtailed tourist traffic. Total expenditures in Canada of travellers from other countries were estimated at \$89,500,000 in 1943 as compared with \$81,900,000 in 1942 and \$149,000,000 in 1939. Expenditures of Canadians abroad were \$37,200,000 in 1943 as compared with \$27,700,000 in 1942 and \$81,000,000 in 1939.

As a large part of the traffic from the United States customarily travels to Canada by motor-car, the curtailment in the use of automobiles during the war years has been the main factor in reducing international tourist expenditures. The effects of the decline in motor traffic first became pronounced in 1942 when the expenditures of United States motorists in Canada were \$26,000,000 compared with \$54,000,000 in 1941. In 1943 there were further contractions in the expenditures of motorists but these were more than offset by much heavier expenditures by persons travelling by rail than in former years, which reflects a growing volume of business and official travel.

Expenditures of Canadian travellers in the United States in 1943 showed an increase of \$9,300,000 over 1942 but a decrease of \$33,300,000 from the amount in 1939. In order to conserve Canada's supply of United States dollars for more essential uses, the Government, in July 1940, placed restrictions on pleasure travel involving the use of United States dollars. Since then Canadian expenditures in the United States have represented mainly expenditures for such purposes as business trips, travel for health reasons, etc. Modification of these restrictions was made in May, 1944. Under the new regulations Canadians may obtain up to \$150 in United States currency for one trip in a 12-month period, or up to \$75 for each of two trips in the same period.

Expenditures of Foreign Travellers in Canada and Canadian Travellers Abroad, 1942 and 1943

Class of Traveller	1942			1943		
	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Travellers from and to overseas countries.....	2,900	3,300	—400	2,500	3,500	—1,000
Travellers from and to the United States—						
Automobile.....	26,000	2,600	23,400	17,000	1,900	15,100
Rail.....	32,000	13,900	18,100	49,000	22,000	27,000
Boat.....	4,000	500	3,500	6,000	700	5,300
Bus (exclusive of local bus).....	6,000	2,600	3,400	5,000	3,200	1,800
Aeroplane.....	3,000	1,100	1,900	3,000	1,200	1,800
Other (pedestrians, local bus, etc.).....	8,000	3,700	4,300	7,000	4,700	2,300
Totals, United States.....	79,000	24,400	54,600	87,000	33,700	53,300
Totals, All Countries.....	81,900	27,700	54,200	89,500	37,200	52,300

Canadian Balance of International Payments

Canada's external economic relations are revealed in outline by statements of the Canadian balance of international payments. The statements present, in statistical form, a summary of the commercial and financial transactions occurring between Canada and other countries. They furnish, therefore, an over-all view of the external relations of the Canadian economy just as national income studies provide an outline of its internal structure. In an economy such as Canada's, where external sources of income and demand furnish an important dynamic element to activity within the

country, the balance of payments focuses attention upon the impact of external demand upon the Canadian economy, the expenditure of income outside of Canada, and the resulting financial and exchange aspects.

From the point of view of exchange and finance the balance of payments is divided into two clearly defined divisions: the balance of payments between Canada and the sterling area, and the balance of payments between Canada and the rest of the world with which Canada's dealings are on a United States dollar basis. Because of conditions arising from the War, Canada's balance of sterling income over disbursements is no longer freely convertible into United States dollars whereas, before the War, sterling balances were employed in part to cover the deficit in United States dollars. Accordingly, separate statements are shown for transactions with Empire and non-Empire countries. In so far as is possible, the statement for Empire countries represents the sterling area and the statements for non-Empire countries represents the United States dollar area.

With the sterling area, the problem has been one of finding means of financing the growing British shortage of Canadian dollars resulting from the extraordinary war-time needs of the United Kingdom for Canadian munitions, food and raw materials. These needs, of course, have increased to unprecedented proportions as the United Kingdom is a principal base of operations against the Axis. In the earlier years of the War, this shortage was principally met by the Canadian Government repatriating Canadian securities owned in the United Kingdom and by the accumulation of sterling balances by the Foreign Exchange Control Board. Some settlements have also been effected by purchases of gold from the United Kingdom which has, in turn, been sold in the United States to settle Canadian deficits there. In 1942, however, besides some additional repatriations, a new method of meeting the growing needs of the United Kingdom for Canadian dollars was introduced when a contribution of \$1,000,000,000 was made to the Government of the United Kingdom for expenditure on war supplies in Canada. In the same year the major part of the accumulation of sterling balances by Canada was converted into a loan of \$700,000,000 to the United Kingdom. In 1943 a further development in the methods of financing the war-time needs of the Allied Nations was the appropriation by the Canadian Parliament of \$1,000,000,000 for Mutual Aid, for the production and transfer of Canadian war supplies to the United Nations. There were also special receipts of United States dollars from the United Kingdom in 1943. Increasing current payments by the Canadian Government to meet the overseas expenditures of the Canadian Forces have also provided a very substantial source of Canadian dollars for the United Kingdom. In short, the United Kingdom has been able to obtain such a large volume of commodities from Canada for the prosecution of the War only because of special receipts of Canadian dollars such as have been outlined above.

In the case of the balance of payments with non-Empire countries, the central problem has also been one of scarcity—in this case a Canadian shortage of United States dollars. The customary deficits in Canada's current account with the United States were greatly augmented by the War in each year until 1943, principally because of the rapid rise in Canadian imports from the United States. At the same time, net credits from other foreign countries whose currencies are convertible into United States dollars have sharply contracted with the decline in exports to Continental Europe and Asia.

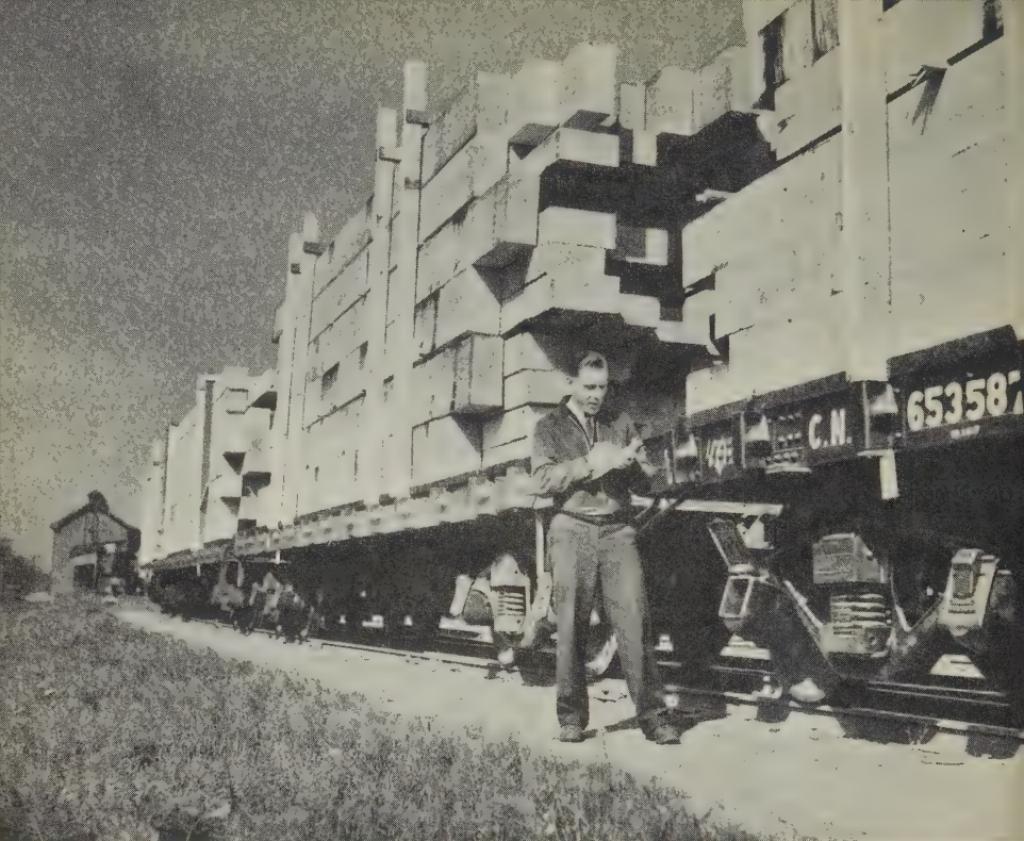
Since, during the war period, the deficits incurred with the United States dollar area have had to be settled with United States dollars, it became necessary to conserve United States dollars for the more essential purposes of the War and to develop new

External Relations

Tangible evidence of Canada's important role in the supplying of war materials and essential supplies to the fighting fronts has been given in the recent signing of Mutual Aid Agreements. *Top:* The Rt. Hon. Malcolm MacDonald, M.P., High Commissioner for the United Kingdom, and the Rt. Hon. W. L. Mackenzie King, Prime Minister of Canada, signing the Agreement with the United Kingdom. *Centre:* The Hon. Sir Wm. Glasgow, K.C.B., High Commissioner for Australia, and the Rt. Hon. W. L. Mackenzie King signing the Agreement with Australia.



Marking closer relationship between Canada and China, Dr. Liu Shih Shun, Chinese Ambassador to Canada, and the Rt. Hon. W. L. Mackenzie King sign the Treaty by which Canada relinquished her extra-territorial rights in China.



A Shipment of Canadian Lumber Destined for Great Britain.

Courtesy, Canadian National Railways

sources of United States dollars. Exchange control with the control of capital movements provided the principal means of conserving United States dollars. Government measures have also limited expenditures on Canadian pleasure travel and non-essential commodities in non-Empire countries. As a result of the agreements entered into at Hyde Park in April, 1941, new sources of United States dollars were produced with the sale of munitions on a large scale to the United States Government and further development of the production of raw materials in Canada. Settlements made by the United Kingdom in United States dollars, and in gold sold in the United States, have also been a factor in meeting deficits in the United States. Another factor of increasing importance in alleviating Canada's shortage of United States dollars has been the growing volume of imports of capital arising, mainly, from the purchase of outstanding Canadian bonds by United States investors.

The rapid and continued rise in the value of imports during the War has been the primary factor in the expansion in payments to the United States dollar area. Imports from the United States have grown steadily from \$472,000,000 in 1939 to \$1,311,000,000 in 1943. The demand for imports is, of course, closely related to the war production program. Imports of capital equipment and munitions production expanded imports of materials, fuel and components and represent a major part of the increase in 1942 and 1943. Direct Government purchases in the United States of aircraft and other equipment for the Armed Forces have been substantial and were particularly large in 1943.

Estimated Canadian Balance of International Payments, 1942 and 1943

(Millions of Canadian Dollars)

Item	1942 ¹			1943 ²		
	Credits	Debits	Net	Credits	Debits	Net
A. CANADA AND ALL COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment.	2,515	1,406	+1,109	3,050	1,579	+1,471
Net exports of non-monetary gold.	184	—	+ 184	142	—	+ 142
Tourist expenditures.	81	26	+ 55	88	36	+ 52
Interest and dividends.	67	270	— 203	59	261	— 202
Freight and shipping.	221	228	— 7	288	294	— 6
All other current transactions.	308	345	— 37	437	688	— 251
TOTALS—Current Account.	3,376	2,275	+1,101	4,064	2,858	+1,206
Special gold transactions ³ .	23	23	—	143	143	—
Capital movements.	1,235	1,343	— 108	677	1,360	— 683
Billion-dollar contribution.	—	1,000	— 1,000	—	—	—
Mutual aid.	—	—	—	—	511	— 511
Balancing item ⁴ .	7	—	+ 7	—	12	— 12
B. CANADA AND EMPIRE COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment.	1,541	226	+1,315	1,763	200	+1,563
Tourist expenditures.	2	2	—	1	2	— 1
Interest and dividends.	7	51	— 44	5 ⁵	52	— 47
Freight and shipping.	127	49	+ 78	148	47	+ 101
War services.	5	5	—	128	499	— 371
All other current transactions.	149	229	— 80	21	50	— 29
TOTALS—Current Account—	1,657	434	+1,223	1,889	740	+1,149
United Kingdom.	169	123	+ 46	177	110	+ 67
Other Empire Countries.						
All Empire Countries.	1,826	557	+1,269	2,066	850	+1,216
Special gold transactions ³ .	—	23	— 23	—	143	— 143
Capital movements.	884	1,129	— 245	20	586	— 566
Billion-dollar contribution.	—	1,000	— 1,000	—	—	—
Mutual aid.	—	—	—	—	502	— 502
Balancing item ⁴ .	—	1	— 1	—	5	— 5
C. CANADA AND NON-EMPIRE COUNTRIES—						
Current Account—						
Merchandise trade, after adjustment..	974	1,180	— 206	1,287	1,379	— 92
Net exports of non-monetary gold.	184	—	+ 184	142	—	+ 142
Tourist expenditures.	79	24	+ 55	87	34	+ 53
Interest and dividends.	60	219	— 159	54	209	— 155
Freight and shipping.	94	179	— 85	140	247	— 107
All other current transactions.	159	116	+ 43	288	139	+ 149
TOTALS—Current Account—	1,461	1,641	— 180	1,898	1,917	— 19
United States.	89	77	+ 12	100	91	+ 9
Other Foreign Countries.						
All Non-Empire Countries.	1,550	1,718	— 168	1,998	2,008	— 10
Special gold transactions ³ .	23	—	+ 23	143	—	+ 143
Capital movements.	351	214	+ 137	657	774	— 117
Mutual aid.	—	—	—	—	9	— 9
Balancing item ⁴ .	8	—	+ 8	—	7	— 7

¹ Revised figures.² Preliminary.

³ This represents gold and United States dollars received from the United Kingdom in part settlement of her deficiency with Canada, and used in turn to settle part of Canada's deficiency with the United States. ⁴ This balancing item reflects possible errors and the omission of certain factors that cannot be measured statistically, such as changes in the timing of payments for goods and services.

⁵ In 1942 expenditure on War Services are included in "All other current transactions".



A Port Arthur Grain Elevator.—This fully mechanized elevator, the largest in the world, is one of many such bulwarks on the food front.

Courtesy, Hydro-Electric Power Commission of Ontario

CHAPTER XIV

Internal Trade—Prices—Cost of Living

Internal Trade

The diverse resources of the various parts of the country have led to a vast exchange of products and the task of providing goods and services where they are required for consumption or use by a population of 11,507,000, very unequally distributed over half a continent, accounts for a greater expenditure of economic effort than that required for the prosecution of Canada's great volume of external trade, high though the Dominion ranks among the countries of the world in this field.

Internal trade is broad and complicated, including as it does the transportation and distribution of goods within the country through the medium of railways, steamships, warehouses, wholesale and retail stores, and other agencies. It also includes all services such as those carried on by doctors, hospitals, theatres, schools, banks, insurance companies, and innumerable others. All such activities, even if not productive of material goods, add substantially to the national income.

Unfortunately, owing to the many ramifications of internal trade, its statistical measurement presents great difficulties. Nevertheless, some idea of its extent may be gathered from the fact that, in 1943, the national income arising from productive operations in Canada was estimated at \$8,700,000,000 while the value of exports of Canadian produce (excluding gold) though proportionately very much higher than normal was \$2,971,000,000 in that year.

Wholesale Trade

Results of the Census of Merchandising and Service Establishments for 1941 show a total of 24,758 wholesale trading establishments or agencies with annual sales of \$5,290,750,500 of which \$4,278,341,500 represented the sale of goods on own account while the remaining \$1,012,409,000 represented sales made on commission for others. Wholesale firms required the services of 94,627 male and 22,844 female employees to whom \$189,449,100 was paid in salaries and wages. In addition there were 13,656 proprietors actively engaged.

These figures summarize the activities of wholesale firms which differ widely not only in the commodities dealt in but also in the services or functions performed. There are duplications in the total sales figures, some types of wholesalers transacting business with other types. Included in the totals are 9,417 establishments classified as wholesalers proper and consisting chiefly of regular wholesale merchants engaged in servicing the retail trades. These had sales of \$2,358,475,300. The remainder of the establishments consist of such types of business as agents and brokers, grain elevators and other assemblers of farm products, sales offices maintained by manufacturers at locations apart from the plant and the bulk tank stations operated by the wholesale distributors of petroleum products.

Retail Trade

The final stage in the distribution of consumer goods is effected through a great number of retail stores ranging in size from small shops, with meagre daily takings, to large enterprises, whose annual sales are reckoned in millions of dollars. Final

results of the Census of Merchandising for 1941 show a total of 137,331 retail stores with \$3,440,901,700 sales, an increase of 24.9 p.c. over the volume of business transacted in 1930, the only other year for which complete details are available.

Retail trading provided employment for 297,047 full-time employees in 1941 of whom 188,658 were male and 108,389 were female and to whom \$289,379,500 was paid in salaries and wages. There were also 95,561 part-time employees who received \$25,058,000. In addition there were 131,823 proprietor workers engaged in their own stores.

Sales on the instalment plan were reported at \$310,620,400 or about 9 p.c. of the total volume of retail business. Customers' accounts owing to retail merchants, representing accounts outstanding not only on instalment sales but also on open account and charge purchases, amounted to \$240,269,200 at the end of 1941.

Chain Stores.—There has been but little change in the proportion of the total retail trade transacted by retail chains in recent years. There were 532 chain-store companies operating in Canada in 1941 and these had 8,011 stores and \$642,999,500 sales or 18.7 p.c. of the total business of all stores including both chains and independents. In 1930 the corresponding ratio was 18.3 p.c.

Current Trends.—The marked upward trend in dollar volume of retail purchasing which was evident in Canada during the first part of the War has slackened greatly during recent years, a result which may be attributed in part to the fixing of prices and in part to the curtailment of supplies. Retail sales were 14 p.c. higher in 1942 than in 1941. The following year witnessed an increase of only 4 p.c. over 1943 while sales for the first seven months of 1944 stood about 7 p.c. above the corresponding period of the preceding year. Stores specializing in durable consumer goods continued to register declining sales, figures for stores dealing primarily in electrical household appliances recording the largest decreases.

Retail Services

In addition to the more than 137,000 retail merchandise stores in operation in 1941, there were 49,271 service establishments recorded in the results of the Census of Merchandising and Service Establishments and these had total receipts of \$254,677,900 in the census year. These figures cover a wide range of establishments of various types, located generally in the retail marketing sections of urban areas and whose revenue represents receipts from services rendered rather than the sale of merchandise. Professional services, transportation services, and services related directly to the building trades, masonry, plumbing, etc., are not included.

The provision of amusement and personal services of various kinds forms a large proportion of the total. Included in the personal services group are 14,529 barber shops, beauty parlours, or combined barber shops and beauty parlours with total receipts of \$30,563,900. Included in the amusement group are 1,244 motion-picture theatres with box-office receipts (exclusive of taxes) amounting to \$41,368,800. Figures for 1942 and 1943 reveal a further expansion in motion-picture theatre attendance and receipts. There were 205,826,197 paid admissions in 1943 while box-office receipts, exclusive of amusement taxes, amounted to \$52,567,989. Dominion and provincial amusement taxes at motion-picture theatres amounted to an additional \$13,381,361.



Loading Grain at Port Arthur, Ont., the Greatest Grain Shipping Centre in the World.—
For seven months during the year, freighters on the Great Lakes waterways carry enormous quantities of grain, coal, oil and miscellaneous commodities destined for the markets of the world.

Courtesy, National Film Board

Co-operative Associations

Co-operative business organizations in Canada occupy an important position in the marketing of agricultural products, purchasing of farm supplies, and in operating co-operative stores. For the year ended July 31, 1943, in comparison with 1942, the value of grain marketings increased from \$87,000,000 to \$134,000,000, live stock from \$40,000,000 to \$63,000,000, dairy products from \$39,000,000 to \$44,000,000, fruits and vegetables from \$15,000,000 to \$19,500,000, and poultry and eggs from \$7,000,000 to \$11,000,000. According to reports received in 1943, shareholders and members financially interested numbered 585,826 and total business exceeded \$350,000,000. The members' equity amounted to \$62,850,226 consisting of paid-up share capital of \$13,325,560, and reserves and surplus of \$49,524,666. From 1942 to 1943 total working capital increased from \$20,000,000 to \$25,000,000.

In Canada early expansion of co-operative activity took place most rapidly and to the greatest degree in the marketing of farm products. Presumably this field offered the farmer the greatest opportunity to effect savings and to provide needed services. However, in recent years with the establishment of co-operative wholesales in nearly every province, the purchasing of farm supplies and household needs on a co-operative plan has shown a marked increase.

Out of the 1,675 co-operative associations reporting in 1943, a total of 518 handled food products to the value of \$12,000,000 and 229 associations handled over \$2,000,000 worth of clothing and home furnishings for their members and patrons. These associations included the business of approximately 330 urban consumer societies. Petroleum products, handled by 500 associations, were valued at \$10,000,000.

In order to increase crop and live-stock production, farmers of 625 associations purchased \$19,000,000 worth of feed, fertilizer and spray material on a co-operative basis.

Credit unions are active in all provinces of Canada. At Dec. 31, 1943, there were 1,780 credit unions chartered in Canada with a membership of 374,069. More than \$154,000,000 has been lent to the members of the various credit unions in Canada during their period of operation. Loans in the year 1943 totalled about \$17,000,000.

A mutual fire insurance company was formed in Ontario in 1836 and several others, still functioning as farmers' mutuals, were organized between 1850 and 1860. To-day there are about 400 such companies in Canada with net assets of over \$12,000,000 and insurance at risk amounting to over \$1,000,000,000. These have a long history of successful operation.

Approximately 105,000, or 6 p.c., of the telephones in Canada are operated by rural co-operative companies in which there is a total investment of \$22,000,000.

Societies have been formed by fishermen on both coasts for the purpose of canning and marketing fish and buying gear on the co-operative plan. During 1942, 67 fishermen's co-operative societies in Nova Scotia, Quebec and British Columbia with a membership of 4,826 did business amounting to \$2,628,380.

Co-operative housing and co-operative hospitalization and medical service are other forms of newer co-operative ventures that are operating successfully.

Combinations in Unlawful Restraint of Trade

The Combines Investigation Act (R.S.C. 927, c. 26) provides for the investigation and prevention of trade combinations, monopolies, trusts and mergers formed or operated against the public interest through agreements affecting the supply or price of any class of goods in unlawful restraint of trade. Such organizations are described by the law as combines. Participation in the formation or operation of a combine is an indictable offence. Methods of unlawfully lessening competition and controlling trade include arrangements among competitors or others to enhance prices, to fix common selling prices or resale prices, and to unduly limit production or facilities for manufacturing or distribution. Provisions with respect to similar offences are contained in the Criminal Code of Canada.

Investigations of alleged combines are conducted under the direction of a Combines Investigation Commissioner reporting to the Minister of Labour. The Act provides for the publication of reports of such investigations and for prosecution when a combine is found to exist. During the War, direct price and supply controls of the Wartime Prices and Trade Board, the Department of Munitions and Supply and other Government war-time agencies have operated in fields of industry and trade to which the Combines Investigation Act is applicable. As such controls are removed, competition will be required to resume its automatic functions. The Combines Investigation Act designed to prevent undue restrictions on trade will assist in the development of a vigorous system of private enterprise in the post-war period.

Railway Tank Cars at a Gasoline Storage Yard.



Courtesy, National Film Board

Wholesale Prices

It is of more than passing interest that after five years of war, Canadian wholesale price levels are still approximately upon a par with 1926 averages. Prices in 1926 provided a representative reference level for the period following post-war deflation in 1920 and 1922. This level was approximately 50 p.c. higher than in 1914, and 56 p.c. lower than the 1920 inflationary peak.

The general wholesale price index did not return to a parity with 1926 until July, 1943. From that time until August, 1944, there was an increase of approximately 2 p.c., with prices after the first quarter of 1944 showing a slightly weaker tendency. The August, 1944, index of 102.3 recorded a war-time increase of approximately 42 p.c., and about 30 p.c. of this rise had occurred before December, 1941. The August, 1944, index number of Canadian farm product wholesale prices was 101.2, almost exactly on a par with the general wholesale index. The general wholesale index and the farm product series had moved on roughly the same level since October, 1943. Prior to that time this relationship had not existed since 1930, with the exception of a brief interval during 1937.

Price history during the First and Second World Wars presents several noteworthy parallels and contrasts. Both wars interrupted a decline in price levels, and both times in the initial stages war-time stimulus to commodity markets was offset by military reverses. In both wars, prices commenced to advance sharply in the latter part of the second year. However, in place of the rapid increases of 1916 and 1917, there were in 1942 and 1943 only moderate gains. Organization for the control of prices was established by most of the major belligerents in the early stages of the conflict. In Canada, key commodities were placed under control as early as September, 1939, and regulations establishing maximum prices for commodities in wholesale and retail levels became effective in December, 1941.

Index Numbers of General Wholesale Prices and Wholesale Prices of Canadian Farm Products, August, 1939, and January, 1943, to December, 1944

(1926=100)

Year and Month	Index Numbers of—		Year and Month	Index Numbers of—	
	General Wholesale Prices	Canadian Farm Products		General Wholesale Prices	Canadian Farm Products
1939					
August.....	72.3	58.4	January.....	102.5	104.0
1943					
January.....	97.1	87.7	February.....	102.7	104.3
February.....	97.5	88.6	March.....	103.0	104.5
March.....	98.6	91.3	April.....	102.9	104.0
April.....	99.0	92.3	May.....	102.5	101.8
May.....	99.3	92.8	June.....	102.5	102.0
June.....	99.6	94.4	July.....	102.5	102.0
July.....	100.1	96.4	August.....	102.3	101.2
August.....	100.4	97.4	September.....	102.3	101.0
September.....	101.1	97.9	October.....	102.4	103.0
October.....	101.9	103.6	November.....	102.4	103.1
November.....	102.4	104.2	December.....	102.5	103.3
December.....	102.5	104.6			

Retail Prices, Rents and Services

The Third Year of the Price Ceiling.—Since the introduction of the general price ceiling in December, 1941, the cost-of-living index has shown only moderate increases. It rose from 114.6 on Oct. 1, 1941, to 117.7 on Oct. 1, 1944 (August 1939=100).

Under the price ceiling the prices of most goods and the more important services, as well as rents, were frozen at levels prevailing in the "basic period", Sept. 15 to Oct. 11, 1941. A few types of commodities were exempted from the ceiling, but where their prices tended to rise unduly and the goods were important, maximum prices were later established (e.g., the more important fresh fruits and vegetables). Price control is under the jurisdiction of the Wartime Prices and Trade Board, which is also the responsible war-time agency in the sphere of civilian supply (see p. 27).

The "basic-period principle" which governs the administration of price control involves not only the stabilization of prices but also the maintenance, so far as possible, of the same price-quality relationships and the same price ranges as in the basic period, as well as the maintenance of a normal proportion of supplies of low-price lines. It involves, too, the distribution of scarce goods to the various regions and dealers in the same proportion as previously. Since price control greatly restricts the "free market" which normally regulates production and distribution, it is necessarily linked with controls over supply and distribution, such as rationing, the allocation of raw materials and, where necessary, the direction of production and the simplification of products. Similarly, rent control has involved the protection of tenants against arbitrary eviction.

War-time increases in costs have been a serious threat to the price ceiling, in addition to the general pressure of expanding buying power. To a substantial degree, the "squeeze" of higher costs has been absorbed by producers, importers

Scoring Canned Fruits after Testing.—A group of skilled women is employed by the Consumers Section of the Department of Agriculture for this purpose.

Courtesy, National Film Board



and distributors. In some businesses the impact of increased costs has been offset by the higher volume of output or sales, and in many fields cost-reducing measures, frequently introduced by the Prices Board, have helped to reduce the squeeze. Where such methods proved insufficient, and where a continued supply of the commodity concerned was necessary, subsidies have been paid (sometimes directly and sometimes through bulk purchasing or remission of duties by the Government); in some instances (e.g., certain foods, lumber), ceiling prices have been raised.

In fixing maximum prices for goods not sold during the basic period (e.g., goods made of substitute materials, or goods that had been off the market in the basic period and later reappeared), the procedure is to determine the price at which these goods would have been sold in the basic period, taking into account their usefulness, serviceability, durability and intrinsic worth, rather than their cost of production. Where a price so determined does not cover current costs of production, the problem is dealt with in the same way as any other arising out of higher costs.

The major problems of price control that arose during the first two years of the general ceiling were discussed in "Canada 1944". This review deals with some of the problems encountered during the third year.

In the interests of greater clarity and better enforcement, specific maximum prices have been set for some goods, particularly products of primary industries, to replace individual ceilings based on each seller's "basic period" prices. Such specific maximum prices have usually been set at the wholesale level, with allowance for regional differences and with regulated retail markups or, in some instances, specific retail prices. During the year such standard maximum prices were set for a number of important goods, including standard retail prices for beef, veal, lamb and mutton, and lumber and fuelwood.

Increasing costs of lumbering operations necessitated a number of price adjustments which made it difficult for many producers of woodenware to maintain ceiling prices on their products. In the autumn of 1943 the Timber Administrator announced that no further increases in the price of lumber would be permitted. To reinforce stability of prices, specific wholesale and retail prices were set for the various regions, replacing the system of individual price ceilings. Those manufacturers of essential woodenware who were in need of financial relief were given assistance by means of subsidies arranged for whole industries (e.g., "hard" furniture, and fruit and

vegetable containers), by bulk purchases (e.g., basket bottoms) or by special subsidy arrangements with individual firms covering slack and tight cooperage, baskets, thread spools, handles for tools, and certain other wood products.

Maintenance of the price-quality relationship became an important problem in the apparel field, with the development of shortages of certain types of yarns and fabrics and of rubber for footwear, and the resulting need to use substitute materials. Manufacturers were, therefore, asked to submit samples and specifications of their products to the Administrator concerned. To facilitate the investigation of complaints they were required to mark their name or trade mark, as well as the style number and size, on each garment, and to attach a price tag. Similar regulations were made for footwear. The Standards Division of the Wartime Prices and Trade Board has a staff of competent inspectors who undertake test checks and surveys to detect instances of quality degradation and follow back the merchandise from the retailer to the manufacturer, so that offenders can be prosecuted.

The production of durable consumer goods such as automobiles, washing machines, stoves, etc., has been suspended in many cases and greatly reduced in others. With the wearing out of articles in use and the depletion of dealers' stocks, the used goods market assumed increasing importance, and special measures had to be taken to keep the prices of used goods under control. Owing to the great variations in the type and condition of second-hand goods, a seller's "basic period" prices are difficult to determine. For some used goods (e.g., automobiles, bicycles, vacuum cleaners, stoves), dealers' selling prices were, therefore, fixed as a percentage, depending on age, of the price of similar new goods. While the sale of personal and household effects was originally exempt from the price ceiling, such sales of the above-mentioned durable goods were brought under control to prevent the use of this exemption as a means of evading price control.

Fresh fruits and vegetables were originally exempted from price-ceiling regulations owing to the administrative difficulties involved in fixing and maintaining appropriate ceiling prices on products that are seasonal, perishable, variable as to supply, quality and size, and sold by a great many small-scale producers. Sharp price increases occurred in the summer of 1943, resulting from increased demand and a short domestic crop. In order to keep down the cost of living, price control was imposed on most of the important fresh fruits and vegetables in the course of the subsequent year.

With the defeat of Germany in sight, manufacturers and government agencies have given increasing attention to the question of expanding civilian production. With this in mind, the Wartime Prices and Trade Board has been carefully reviewing its restrictive orders with a view to removing them just as soon as war conditions permit. A good many orders prohibiting and restricting the manufacture of civilian goods (particularly those using metal) have already been removed so that manufacturers could plan new lines of production even though shortages of, and controls over, raw materials and labour supply might for the time being preclude any considerable increase in such production. In addition, the Board's regulations concerning new business entries were relaxed considerably in the summer of 1944 and since then permits have been granted more freely.

Now that the reconversion of industry has begun, the pricing of goods not sold during the basic period has become a major problem of price control. In the sphere of imports the same problem has been much accentuated since the Government decided to revoke Schedule I of the War Exchange Conservation Act, which had prohibited the import of a long list of articles from non-sterling areas.

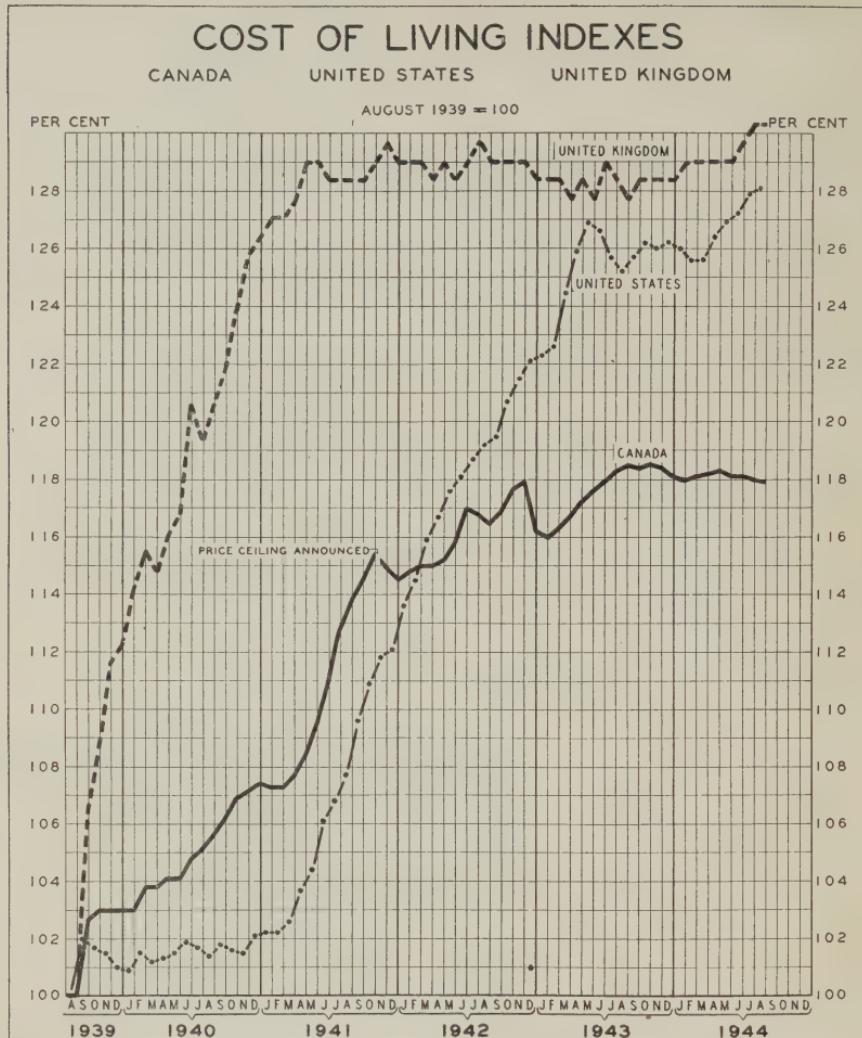
In accordance with Government policy with respect to price control in the transition period, maximum prices for all "new goods" will continue to be fixed in strict accordance with the basic-period principle. At the time of writing (October, 1944) the inflationary pressures remain great and while curtailment of war contracts will in time work strongly in the opposite direction, the early stages of the transition period are likely to be complicated by some continued shortages and bottlenecks in reconversion, by large "pent-up" consumer demand and by war-inflated costs, all of which factors will work to raise prices. Following the War of 1914-18, for example, prices rose abruptly in late 1919 and the early part of 1920 and then declined even more abruptly for more than a year. In continuing to adhere to the ceiling policy, therefore, the objective is to prevent inflation and thus to lessen the risk of deflation. By keeping prices down, the opportunities for developing and expanding domestic and external markets should be increased; in this way the objective of a large volume of production and a high level of employment will be furthered.

In some instances, of course, manufacturers of new products have been unable to operate under basic-period ceilings owing to war-time increases in costs which they could absorb only while producing on government account and at full capacity. In a number of cases, some departure from the basic-period rule has been authorized as had, indeed, been done in previous years. Such adjustments, however, have been treated as exceptions and every attempt has been made to have cost increases absorbed by manufacturers and dealers. In many instances costs have been regarded as being only temporarily inflated and are expected to fall as a result of reduced labour turnover and overtime, increased labour efficiency, technical improvements, lower shipping rates, better and cheaper materials and increased volume of civilian production.

Linemen at Work over a Railway Yard.

Courtesy, Canadian National Railways





Cost of Living

Movements in the official cost-of-living index in 1944 were the smallest for any of the five war years. From January to August, 1944, the index varied between 119.2 and 118.9, a level only fractionally higher than the 1943 average of 118.4. Food prices continued to show moderate net advances, but these were partially offset by substantial declines in domestic electricity rates in many of the larger urban centres. Price increases in budget group indexes from August, 1939, to August, 1944, were as follows: food 32.4 p.c., rent 7.8 p.c., fuel and light 9.8 p.c., clothing 21.4 p.c., home furnishings and services 17.4 p.c., and miscellaneous items 7.6 p.c. The over-all increase in the total cost-of-living index was 18.0 p.c.

COST OF LIVING INCREASES IN TWO WARS

LAST WAR

JULY 1914 TO SEPT. 1919

SIXTY-TWO MONTH PERIOD

WITHOUT PRICE CEILING

THIS WAR

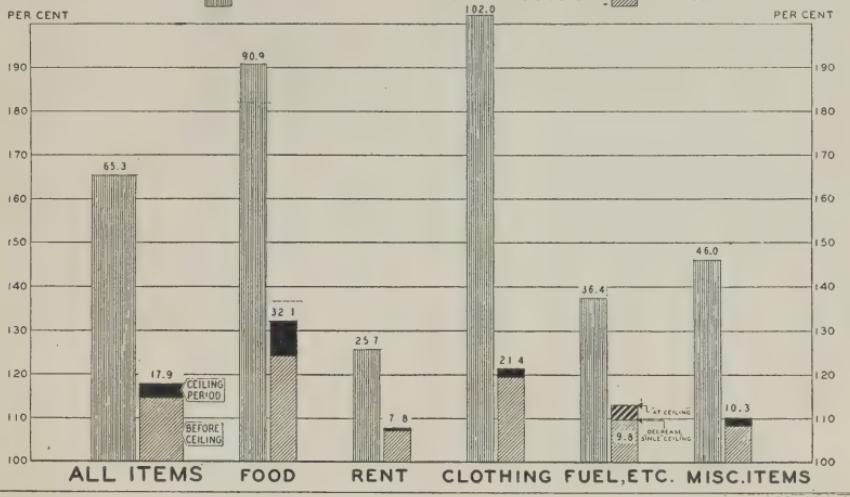
AUG 1939 TO SEPT. 1944

INCREASE SINCE BASIC PERIOD

THIRTY-FIVE MONTH PERIOD

INCREASE BEFORE BASIC PERIOD

TWENTY-SIX MONTH PERIOD



This offers a considerable contrast to changes during and after the First World War. Five years after its start, the cost-of-living index for Canada had risen by more than 60 p.c.

Index Numbers of Living Costs in Canada, 1936-43, and by Months, 1944

(Av. 1935-39 = 100)

Year and Month	Food	Rent	Fuel and Light	Clothing	Home Furnishings	Sundries	Total
1936.....	97.8	96.1	101.5	99.3	97.2	99.1	98.1
1937.....	103.2	99.7	98.9	101.4	101.5	100.1	101.2
1938.....	103.8	103.1	97.7	100.9	102.4	101.2	102.2
1939.....	100.6	103.8	101.2	100.7	101.4	101.4	101.5
1940.....	105.6	106.3	107.1	109.2	107.2	102.3	105.6
1941.....	116.1	109.4	110.3	116.1	113.8	105.1	111.7
1942.....	127.2	111.3	112.8	120.0	117.9	107.1	117.0
1943.....	130.7	111.5	112.9	120.5	118.0	108.0	118.4
1944							
January.....	131.5	111.9	112.7	121.1	118.4	108.9	119.0
February.....	130.9	111.9	113.0	121.3	118.4	109.1	118.9
March.....	131.1	111.9	113.0	121.3	118.4	109.0	119.0
April.....	131.5	111.9	113.0	121.4	118.4	109.0	119.1
May.....	131.7	111.9	112.5	121.5	118.5	109.0	119.2
June.....	131.1	111.9	112.5	121.5	118.4	109.0	119.0
July.....	132.0	111.9	108.9	121.5	118.3	109.0	119.0
August.....	131.5	111.9	108.7	121.5	118.5	109.0	118.9
September.....	131.2	111.9	108.7	121.5	118.4	109.0	118.8
October.....	130.8	112.0	108.7	121.6	118.4	108.9	118.6
November.....	131.6	112.0	108.1	121.6	118.4	108.9	118.9
December.....	130.3	112.0	108.1	121.6	118.4	108.9	118.5

CHAPTER XV

Public Finance

The enormous outlays of government funds made necessary by the War, and the adoption of a "pay-as-you-go" policy so far as possible, have made a heavy drain on the resources of the ordinary tax-paying citizen. Provincial and municipal requirements have been curtailed as much as possible in order to free money to enable the Government to finance the war effort.

Dominion Finance

Among the powers conferred on the Dominion Government by the British North America Act were: the right to deal with the public debt and property; the right to raise money by any system of taxation (the provinces were limited to direct taxation); and the borrowing of money on the credit of the Dominion. The Department of Finance, established in 1869, exercises supervision, control and direction over all matters relating to the financial affairs, public accounts, etc., of the Dominion.

Dominion Finances, 1868-1944

Fiscal Year	Total Revenue	Per Capita Revenue ¹	Total Expenditure	Per Capita Expenditure ¹	Net Debt at End of Year	Net Debt Per Capita ¹
	\$	\$	\$	\$	\$	\$
1868.....	13,687,928	3.90	14,071,689	4.01	75,757,135	21.58
1871.....	19,375,037	5.25	19,293,478	5.23	77,706,518	21.06
1881.....	29,635,298	6.85	33,796,643	7.82	155,395,780	35.93
1891.....	38,579,311	7.98	40,793,208	8.44	237,809,031	49.21
1901.....	52,516,333	9.78	57,982,866	10.80	268,480,004	49.99
1911.....	117,884,328	16.36	122,861,250	17.05	340,042,052	47.18
1921.....	436,292,184	49.65	528,302,513 ²	60.12	2,340,878,984	266.37
1931.....	357,720,435	34.48	441,568,413 ²	42.56	2,261,611,937	217.97
1933.....	311,735,286	29.32	532,369,940 ²	50.07	2,596,480,826	244.19
1936.....	372,595,996	34.03	532,585,555 ²	48.64	3,006,100,517	274.53
1937.....	454,153,747	41.12	532,005,432 ²	48.17	3,083,952,202	279.22
1938.....	516,692,749	46.33	534,408,117 ²	47.92	3,101,667,570	278.13
1939.....	502,171,354	44.57	553,063,098 ²	49.09	3,152,559,314	279.80
1940.....	562,093,459	49.39	680,793,792 ²	59.82	3,271,259,647	287.43
1941.....	872,169,645	75.79	1,249,601,446 ²	108.59	3,648,691,449	317.08
1942.....	1,488,536,343	127.73	1,885,066,055 ²	161.75	4,045,221,161	347.11
1943.....	2,249,496,177	190.44	4,387,124,118 ²	371.41	6,182,849,101	523.44
1944.....	2,765,481,945	240.34	5,322,717,737 ²	462.58	8,740,084,893	659.57

¹ Per capita figures for census years are based on census populations and for intervening years on official estimates. ² Includes advances to railways and transfers from active to non-active assets.

Financing the Present War

The War Budgets.—The first War Budget was passed by Parliament immediately after the outbreak of war in September, 1939, and since then there have been five more, each bringing increases and adjustments in the tax system to meet war-time needs. The details of the first five of these budgets are discussed in earlier editions of this Handbook. The details of the sixth, presented by the Minister of Finance in June, 1944, are discussed below.

Sixth War Budget, 1944.—The taxation changes proposed in the Budget of June 26, 1944, were largely of an incentive character. In the field of individual

A Corner of the General Office of the Foreign Exchange Board.—This organization is an important, though little publicized link in the war-time financial machine.



Courtesy, National Film Board

income taxes the major change was the removal of the savings tax, the deduction of which at the source was alleged to be discouraging overtime work. The changes in corporation taxes were designed to assist industry in making the transition to peace-time conditions. While representing no general relaxation of the severe burden of war-time taxes, they should enable business to go ahead with confidence in making the capital investments necessary in converting to peace-time production.

A provision allowing for a one-year carry back and a three-year carry forward of business losses, including losses incurred in farming, was probably the most important measure having a permanent value. This allowance was much more generous than that previously on the statutes which provided for a one-year carry forward only, except in the case of farming, where the period was two years. Under United States legislation losses may be carried two years either forward or back from the taxation year, while in the United Kingdom they may be carried forward six years. The Canadian provision is biased toward the future, in keeping with the forward looking character of most business ventures, but at the same time makes it possible for business to charge losses which it may encounter in the first post-war year against profits of the last year of the War.

A second part of this program provides for depreciation at double the normal rates in respect of capital expenditure, whether on new or used assets, made after a date to be set by the Government, provided such expenditure represents a new investment by the taxpayer. This measure is of particular significance, in that it represents an attempt to find a way out of the dilemma of having to repeal the excess profits tax too early by the standards of general and fiscal economic requirements, or leaving it so late that reconversion or other new investment would be delayed.

A third measure was designed to meet the arguments of the business world that war-time taxes were depriving businesses of funds which should be spent on maintenance and repairs but which could not be so spent because of labour and material shortages and other restrictions. The Minister of Finance stated in his Budget speech that attempts had been made to find an equitable formula which

would permit the establishment of reserves for deferred maintenance, but that these attempts had been fruitless in view of the difficulty of finding a single formula that would fit all industries. He recommended, therefore, and Parliament so enacted, that expenditures on maintenance and repairs, in a period following a date to be set by the Government, may be charged back to the extent of one-half against the income of previous years but not earlier than 1943. This will enable businesses to obtain the maximum tax advantage from whatever reasonable volume of repair and maintenance expenditures they wish to make after the War when materials and labour are again plentiful.

Under another amendment expenditures on scientific research and experimentation, defined broadly as "any activity in the field of natural or applied science for the extension of knowledge", will receive more generous recognition by the taxing authorities than hitherto. Previously such expenditures were not allowed as a deduction if they did not relate directly to the taxpayer's business or were in the nature of capital expenditures. Under the new provision *all* such expenditures of a current nature will be allowed over a three-year period.

Under amendments to the Excess Profits Tax Act, authority was given to repay the refundable portion of the tax in case of bankruptcy, liquidation, etc., and also to approve assignment of it by way of security where the Governor in Council is satisfied that the proceeds are to be used by the taxpayer in making expenditures that will contribute to the post-war conversion of the taxpayer's business and will provide substantial employment. Another amendment provided for the adjustment upward of a taxpayer's standard profit to the extent of 5 p.c. of the increase in capital employed between the commencement of the 1939 taxation period and the commencement of the 1944 taxation period, and a further provision granted the minimum 40 p.c. rate for the first year of any new business commencing after June 26, 1944.

In addition to the removal of the savings requirement from the personal income tax, there were many other changes of significance. The definition of dependants was broadened to include in-laws of the taxpayer and illegitimate children; the medical expenses provision was made more generous; a helplessness allowance of \$480 a year was granted to blind persons; certain changes were made affecting the conditions for obtaining marital status; alimony payments were made eligible as a deduction from income; pay and allowances of members of the women's armed services divisions were made exempt up to \$1,600 rather than \$1,200; and several other amendments were also enacted.

Apart from the income taxes, other changes included the repeal of restrictions on importations from hard currency countries under the War Exchange Conservation Act and the removal of customs duties on imported agricultural implements. No significant changes were made in any of the other tax sources. Minor amendments were made to the Succession Duties Act, the Special War Revenue Act, and the Customs Tariff, which were largely of a technical character.

Revenues and Expenditures

In the fiscal year ended Mar. 31, 1944, both revenues and expenditures again far exceeded any year in the history of the Dominion. Net revenues increased by \$515,986,000 to \$2,765,482,000, an increase to which all important tax sources contributed. Of total disbursements of \$5,322,718,000, expenditures on the War accounted for \$4,587,023,000 or approximately 86 p.c. This amount included

\$912,603,000 representing Canada's contribution to the war effort of the United Nations as a whole through United Nations Mutual Aid. Ordinary expenditures, covering the normal operating costs of the Government, increased by \$69,130,000 mainly owing to increased debt charges arising out of the War. Special expenditures, mainly for agricultural relief purposes, increased by \$6,208,000, while expenditures on Government-owned enterprises remained unchanged. The over-all deficit for the year amounted to \$2,557,236,000 compared with \$2,137,628,000 in the previous fiscal year.

Summary of Total Revenues and Expenditures, Fiscal Years 1940-44

Item	1940	1941	1942	1943	1944
	\$'000	\$'000	\$'000	\$'000	\$'000
Revenues					
Customs Import Duties.....	104,301	130,757	142,392	118,963	167,882
Excise Duties.....	61,032	88,608	110,091	138,721	142,124
Income Tax.....	134,449	220,471	403,606	910,189	1,151,757
National Defence Tax.....	—	27,672	106,637		
Excess Profits Tax.....	—	23,995	135,168	454,581	468,718
Sales Tax.....	137,446	179,701	236,183	232,929	304,915
War Exchange Tax.....	—	61,932	100,874	94,553	118,912
Other taxes.....	30,457	37,404	125,962	186,784	237,503
Totals, Revenues from Taxation.....	467,685	770,540	1,360,913	2,136,720	2,591,811
Non-tax revenues.....	73,931	89,215	102,911	116,079	133,283
Totals, Ordinary Revenues.....	541,616	859,755	1,463,824	2,252,799	2,725,094
Special receipts and other credits.....	20,477	12,415	24,712	66,697	195,388
Totals, Revenues.....	562,093	872,170	1,488,536	2,319,496	2,920,482
Less Refundable Taxes.....	—	—	—	70,000	155,000
Net Revenues.....	—	—	—	2,249,496	2,765,482
Expenditures					
Ordinary expenditures.....	398,323	390,629	444,778	561,251	630,381
Capital expenditures.....	7,030	3,358	3,430	3,276	2,622
War expenditures (special).....	118,291	752,045	1,339,674	3,724,249	4,587,023
Other special expenditures ¹	89,113	42,869	63,976	31,288	37,496
Government-owned enterprises ²	42,079	18,182	1,214	1,248	1,307
Other charges.....	25,958	42,518	31,994	65,812	63,889
Totals, Expenditures.....	680,794	1,249,601	1,885,066	4,387,124	5,322,718
Deficits.....	118,701	377,431	396,530	2,137,628	2,557,236

¹ Includes \$27,000,000, \$10,500,000 and \$12,600,000 reserve against estimated loss on wheat guarantees for 1939-40, 1940-41, and 1941-42, respectively.

² Includes net income deficit of the Canadian National Railways incurred in the calendar years 1939 and 1940 of \$40,096,000 and \$16,965,000, respectively, taken into the accounts of the Dominion in the fiscal year after the close of the calendar year.

War Loans

The First and Second War Loans and the 1941 Victory and Second Victory Loans were sold by the Government to the Canadian public to provide a part of the funds required for various purposes that were not covered by revenue. The First War Loan, dated Feb. 1, 1940, was sold in an amount of \$250,000,000 (\$200,000,000 for cash); the Second War Loan, dated Oct. 1, 1940, was sold in an amount of \$324,945,700 (\$300,000,000 for cash); the 1941 Victory Loan, dated June 15, 1941, was sold in a total amount, for the two maturities, \$836,820,250 (\$730,376,250 for cash). The Second Victory Loan dated Mar. 1, 1942, was sold in a total amount,

for the three maturities, of \$996,706,900 (\$843,127,900 for cash) from 1,681,267 subscriptions. The Third Victory Loan, dated Nov. 1, was sold in a total amount for two maturities, of \$991,389,050 (all cash) from 2,041,610 subscriptions.

The Fourth Victory Loan, dated May 1, 1943, was sold in a total amount, for two maturities, of \$1,291,000,000 (all cash) from 2,431,949 subscriptions. The Fifth Victory Loan, dated Nov. 1, 1943, was sold in a total amount, for two maturities, of \$1,571,311,550 (\$1,383,275,250 for cash) from 3,033,051 subscriptions. The Sixth Victory Loan, dated May 1, 1944, was sold in a total amount, for two maturities, of \$1,405,013,350 (all cash) from 3,077,123 subscriptions. The Seventh Victory Loan, dated Nov. 1, 1944, was sold in a total amount, for two maturities of \$1,500,079,600 (preliminary figure) from 3,179,700 subscriptions. These last figures do not include 20,115 conversion subscriptions of \$144,719,700.

War Savings Certificates.—To provide a form of savings for those not able to purchase the bonds of larger denominations of Victory and War Loans and to provide a means of regular savings, the Government instituted the sale of War Savings Certificates and Stamps in May, 1940. The Stamps are sold in the denomination of 25 cents and may be accumulated for the purchase of War Savings Certificates. The Certificates are issued at a cost to the purchaser of \$4, \$8, \$20, \$40 and \$80, and if held to maturity, seven and one-half years after issue date, are redeemable at \$5, \$10, \$25, \$50 and \$100, respectively, and for lesser amounts if redeemed prior to maturity. The yield to the investor, if held to maturity, is 3 p.c., compounded semi-annually. From May 27, 1940, to Sept. 30, 1944, 41,741,794 applications were received for Certificates having a purchase value of \$297,050,872.

In June, 1940, arrangements were made to issue Non-Interest Bearing Certificates in the denomination of one dollar or over, maturing June 15, 1945, but subject to redemption at the option of the holder at any time after six months from the date of issue. In February, 1944, the maturity date of new Certificates is June 15, 1947.

Analysis of Income Tax Collections

The income tax was introduced during the War of 1914-18, as part of what is still known as war-tax revenue. It is a war tax in name only, for even before the outbreak of the present war it had become a permanent and important part of the taxation structure, and the chief means of raising ordinary revenue. It is now, of course, playing a still more important role in the raising of revenue. In many respects, it is an ideal form of direct taxation; the incidence is admittedly fair and just and the machinery for the collection of this tax was ready to hand.

The pressure of war financing naturally forced the Government to lower the exemption limits and this broadening of the field, as well as the switch over to a "pay-as-you-go" basis, has made it impossible to compile statistics relating to income groups and occupational classes on a comparable basis. At the present time, work is under way on the compilation of detailed statistics regarding the incomes assessed for the taxation year 1941. These will be the beginning of a new series of income tax compilations and will relate the collection more closely to the year in which the income is actually earned.

The decision to make the change is occasioned by the growing interest in income tax statistics from an economic and social standpoint. Formerly the statistics were in the nature of an administrative report covering the annual work accomplished by the Taxation Division of the Department of National Revenue during a fiscal year.

Now, it is believed that the statistics are of sufficient importance to be presented in the nature of a national report covering the income earned by, and the taxes levied on, all taxpayers in respect of a specific calendar or taxation year.

Statistics on the new basis are not yet available but, as an indication of the manner in which the income tax is broadening out, the table given below showing the number of assessable returns filed is of interest. This table covers the taxation year, i.e., the year in which the income was earned, while the second table shows the amounts collected in the fiscal years ended Mar. 31, 1936-44.

Record of Assessable Returns Filed by Taxation Years¹, 1936-42

Taxation Year	Individual Returns Filed	Corporation Returns Filed	Totals Returns Filed
	No.	No.	No.
1936.	212,112	11,343	223,455
1937.	240,956	12,539	253,495
1938.	245,134	11,761	256,895
1939.	257,186	12,619	269,805
1940.	684,359	14,806	699,165
1941.	980,454	16,218	996,672
1942 ² .	1,748,562	16,670	1,765,232

¹ Calendar year in which income earned in the case of individuals and for corporations the business year ending within the calendar year. ² Preliminary figures.

Checking Tags on a Shipment of 5,000 Bren Guns Made in Canada for our Chinese Allies. —The Chinese Bren takes a different type of ammunition to that used on the Western Front.



Collections under the Income War Tax Act, Fiscal Years 1936-44

Fiscal Year	General Income Tax		Tax on Dividends and Interest Sect. 9B	Tax on Rents and Royalties Sect. 27	Gift Tax Sect. 88	Total
	Individuals Sect. 9-1	Corporations Sect. 9-2				
	\$	\$				
1936.....	32,788,746	42,518,971	7,207,601	-	194,485	82,709,803
1937.....	35,358,302	58,012,843	8,910,014	-	84,083	102,365,242
1938.....	40,070,942	69,768,605	10,152,088	-	373,897	120,365,532
1939.....	46,591,449	85,185,887	9,903,046	-	345,756	142,026,138
1940.....	45,008,858	77,920,002	11,121,632	-	398,074	134,448,566
1941.....	103,308,249 ¹	131,565,710	12,282,259	759,957	226,847	248,143,022
1942.....	295,874,285 ¹	185,835,699	26,642,106	1,626,669	264,258	510,243,017
1943.....	533,915,059	347,969,723	26,710,946	1,369,851	223,093	910,188,672
1944.....	811,888,495 ²	311,378,714	25,670,804	1,272,389	1,546,633	1,151,757,035

¹ Includes National Defence Tax amounting to \$27,672,018 in 1941 and to \$106,636,747 in 1942.

² Includes \$2,317,733 collected from 1942 "Deferred Tax".

Provincial Finance

The financial position of the provinces has shown continuous improvement during the war years. Between 1939 and 1942 (fiscal years ended nearest Dec. 31, 1939 and 1942) ordinary revenues, exclusive of shared cost contributions of other governments, increased by more than \$75,000,000 while ordinary expenditures, exclusive of amounts paid by other governments, remained almost constant. Approximate major revenue increases were as follows: excess of Dominion subsidies for vacation of income and corporation tax fields over 1939 yield of these taxes, \$30,000,000; liquor control, \$26,500,000; Quebec sales tax, \$13,000,000; public domain, \$10,000,000. Succession duties decreased approximately \$6,000,000. Increased expenditure mainly for education, highways, public welfare and general administrative overhead, was roughly offset by a decline of almost \$30,000,000 in the net provincial relief burden.

In the provincial fiscal years ended nearest Dec. 31, 1941 and 1942, 82.8 p.c. and 84.7 p.c., respectively, of the gross ordinary revenues were accounted for by the eight revenue sources listed on p. 201. The 1942 figures in parentheses are subject to revision. Dominion of Canada subsidies and subventions, \$75,658,000 (\$137,365,000), 18.7 p.c. (33.6 p.c.); gasoline taxes, \$59,878,000 (\$47,669,000), 14.8 p.c. (11.7 p.c.); liquor control, \$46,348,000 (\$59,988,000), 11.4 p.c. (14.7 p.c.); corporation taxes, \$45,156,000 (\$1,029,000), 11.2 p.c. (0.3 p.c.); public domain, \$33,635,000 (\$34,819,000), 8.3 p.c. (8.5 p.c.); motor-vehicle licences, \$31,639,000 (\$26,467,000), 7.8 p.c. (6.4 p.c.); succession duties, \$27,362,000 (\$21,944,000), 6.8 p.c. (5.4 p.c.); retail sales taxes, \$15,806,000 (\$16,704,000), 3.9 p.c. (4.1 p.c.).

The most significant change in the provincial revenue structure during the war years has been the stabilization of a greatly increased proportion of provincial revenues by the provisions of the Dominion-Provincial Taxation Agreement Act, 1942. By this Act each province agreed to vacate the personal income and corporation tax fields for the duration of the War and a certain readjustment period thereafter in return for a Dominion subsidy equal to either (a) the province's revenue from these sources during the fiscal year ended nearest Dec. 31, 1940, or (b) the

province's net debt service cost for the same period. A further provision of the Act guaranteed provincial gasoline tax revenues at the 1940 level. The effect of these provisions is well illustrated by the figures on p. 200.

Aggregate Provincial Revenues and Expenditures, 1921-41

NOTE.—Figures for 1940 and 1941 are not strictly comparable with preceding years. Years following 1939 include provincial fiscal years ended nearest to Dec. 31 instead of the fiscal years ended in the year specified.

Fiscal Year	Gross Ordinary Revenues	Gross Ordinary Expenditures	Fiscal Year and Province	Gross Ordinary Revenues	Gross Ordinary Expenditures
	\$	\$		\$	\$
1921.....	102,030,458	102,569,515	1941—		
1926.....	146,450,904	144,183,178	P.E. Island.....	2,146,000	2,134,000
1929.....	183,598,024	177,542,192	Nova Scotia.....	18,529,000	17,435,000
1930.....	188,154,910	184,804,203	New Brunswick.....	13,754,000	12,853,000
1935.....	160,567,695 ¹	181,175,687 ¹	Quebec.....	110,347,000	91,459,000
1936.....	232,616,182	248,141,808	Ontario.....	136,022,000	119,530,000
1937.....	268,497,670	253,443,737	Manitoba.....	22,346,000	19,798,000
1938.....	287,955,846	273,861,417	Saskatchewan.....	30,408,000	27,817,000
1939.....	296,873,259	289,228,598	Alberta.....	28,104,000	20,845,000
1940.....	355,311,000 ²	330,930,000 ²	British Columbia.....	43,135,000	37,947,000
1941.....	404,791,000	349,818,000			

¹ Nova Scotia figures are for fourteen months and Ontario figures for five months. ² Quebec figures are for nine months.

The gross provincial funded debt, which totalled \$218,876,000 in 1916 and increased steadily until it reached \$1,734,274,912 in 1940, declined in 1941 to \$1,708,272,500 and in 1942 to \$1,696,629,157.

Aggregate Provincial Direct Liabilities, 1941 and 1942

NOTE.—Figures are for the fiscal years ended nearest to Dec. 31.

Item	1941	1942	Province	1941	1942
	\$	\$		\$	\$
Gross funded debt..	1,708,272,500	1,696,629,157	Prince Edward Island.....	9,489,494	9,319,882
Less sinking funds..	-151,552,067	-164,637,242	Nova Scotia.....	98,977,109	90,482,357
Net Funded Debt	1,556,720,433	1,531,991,915	New Brunswick.....	97,008,979	95,575,372
Treasury bills.....	279,187,921	259,569,171	Quebec.....	383,525,453	385,896,586
Savings deposits.....	38,192,476	39,704,954	Ontario.....	724,985,944	705,039,363
Temporary loans.....	8,324,778	4,357,659	Manitoba.....	112,251,698	110,094,282
Superannuation and other deposits....	18,425,574	17,955,292	Saskatchewan...	208,593,307	202,345,209
Accrued interest....	21,129,559	18,086,134	Alberta.....	150,827,448	149,756,765
Accounts payable and other liabilities.....	14,003,224	20,516,775	British Columbia	150,324,533	143,672,084
Totals, Direct Liabilities (less sinking funds) ..	1,935,983,965	1,892,181,900	Totals, Direct Liabilities (less sinking funds) ..	1,935,983,965	1,892,181,900

Municipal Finance

The revenue resources of municipalities in Canada are limited generally to direct taxation, based on assessed valuations of real and other types of property. In 1942 the total taxable assessed valuations on which taxes were levied was

\$7,731,795,000 of which approximately \$7,267,498,000 or 94 p.c. was real property. Personal property assessment is still used in some provinces, although not as extensively as in the past. Aside from real property, the most important type of valuation for taxation purposes is the business assessment although not all provinces assess for business purposes separately and distinctly from real property valuations. Income assessment disappeared in 1942 as a result of the operation of the Dominion-Provincial Tax Agreements whereby the Provinces and municipalities have abandoned the income tax field for the duration of the War and one year thereafter so as to leave it open to the Federal Treasury.

Total municipal revenues, including local schools, for 1942 are estimated at \$323,900,000* of which \$241,700,000 or 74·6 p.c. represents taxes on real estate. Other types of taxes produced \$33,500,000 or 10·3 p.c. of the total while \$48,700,000 or 15·0 p.c. was derived from miscellaneous sources. In 1939 total municipal revenues amounted to \$309,900,000; 77·4 p.c. was derived from real property taxes while other taxes represented 10·3 p.c. of the total.

The support of local schools represented the largest single item of expenditure in 1942 and required \$86,400,000 or 27·3 p.c. of total municipal expenditures estimated at \$316,800,000.* Other services such as public welfare, streets and roads, police and fire protection, etc. (but excluding debt service charges), amounted to \$153,100,000 or 48·3 p.c. and debt service charges including debt retirement amounted to \$77,300,000 or 24·4 p.c. of the total. In 1939, total expenditures were \$321,300,000† with \$80,800,000 or 25·1 p.c. going for the support of local schools; \$154,100,000 or 48·0 p.c. for other services and \$86,400,000 or 26·9 p.c. for debt service and debt retirement.

Bonded Debt and Other Direct Liabilities.—The rapid growth of municipalities, together with increased demands and responsibilities for improvements, schools and other services, has resulted in the incurring of a heavy burden of debt.

Municipal Bonded Debt and Sinking Funds, by Provinces, 1919, 1941 and 1942

Province	Gross Bonded Debt			Sinking Funds	
	1919 ¹	1941 ²	1942 ²	1941	1942
	\$'000	\$'000	\$'000	\$'000	\$'000
Prince Edward Island.....	970	3,195	3,217	603	717
Nova Scotia.....	17,864	34,038	33,317	12,886	13,434
New Brunswick.....	11,188	26,142	25,931	9,009	9,446
Quebec.....	199,706	502,707	483,450	91,606	89,736
Ontario.....	243,227	345,207	315,362	52,786	51,366
Manitoba.....	55,563	73,857	67,938	33,745	31,169
Saskatchewan.....	39,585	50,078	49,245	23,214	24,055
Alberta.....	66,870	52,753	50,011	8,578	7,795
British Columbia.....	94,742	108,514	108,426	29,032	30,346
Totals.....	729,715	1,196,491	1,136,897	261,459	258,064

¹ Not entirely comparable since more complete detail is available in later years.
for rural schools in the Maritimes not included.

² Debt

A significant factor in the situation is that the greater part of the municipal long-term debt is represented by serial or instalment-type debentures, which require yearly repayments of principal. While the benefits of debt reduction are manifold, certain expenditures for the rehabilitation of existing assets and for new improvements neces-

* Statistical Summary, Bank of Canada, August-September, 1943.
Bank of Canada, August-September, 1942.

† Statistical Summary,

sitated by normal expansion have had to be taken care of. But on the whole the bonded-debt situation of the municipalities has undergone substantial improvement.

The reductions in recent years have been due largely to a general curtailment, during the depression years, of capital undertakings and works requiring debenture financing. The extension of provincial control over municipal borrowings has also been a major factor in this regard, as well as the fact that the greater part of the total municipal debt is represented by serial or instalment type debentures, which require yearly repayments of principal. While certain expenditures have been sorely needed in many communities, such as for the rehabilitation of existing assets and for new improvements as a result of normal expansion and growth, these were sacrificed in the early years in the interests of the taxpayer. Latterly, under war-time conditions this policy of deferment has been continued so as to free the financial market to the Dominion Government for its war-financing needs. The post-war period will, no doubt, bring about a resumption of capital borrowings by municipalities to meet such capital expenditures, as municipalities will play an important role in post-war construction and reconstruction in correlation with post-war plans of Federal and Provincial Governments.

Aggregate Municipal Direct Liabilities, Fiscal Years Ended in 1941 and 1942

Item	1941	1942	Province	1941	1942
	\$	\$		\$	\$
Gross debenture debt.....	1,196,491,013	1,136,896,940	P. E. Island.....	2,746,464 ¹	2,614,582 ¹
<i>Less sinking funds....</i>	<i>261,458,503</i>	<i>258,063,903</i>	Nova Scotia.....	24,496,992 ²	22,509,784 ¹
Net Debenture Debt	935,032,510	878,833,037	New Brunswick.....	21,118,498 ¹	19,129,583 ¹
Temporary loans...	106,051,245	89,056,655	Quebec.....	501,049,496	494,769,623
Accounts payable and other liabilities.....	125,044,287	132,863,721	Ontario.....	320,194,650	284,884,132
			Manitoba.....	61,334,423	54,594,223
Totals, Direct Liabilities (less sinking funds)...	1,166,128,042	1,100,753,413	Saskatchewan...	87,438,896	82,817,073
			Alberta.....	57,099,759	53,762,110
			British Columbia	90,648,864	85,672,303
Totals, Direct Liabilities (less sinking funds)...	1,166,128,042	1,100,753,413			

¹ Excludes rural schools. ² Excludes liabilities of public utilities except for debenture debt and sinking funds; also excludes rural schools.

Testing Gum Adhesive before Use on Postage Stamps.—In this scientific age even the gum used on postage stamps is the subject of research and must be edible.



CHAPTER XVI

Currency—Banking—Insurance

Currency

The use of the dollar as a monetary unit was extended throughout the new Dominion by the Uniform Currency Act of 1871. The Canadian gold dollar weighs 25.8 grains, nine-tenths fine gold, and thus contains 23.22 grains of gold. Only very limited issues of gold coin have ever been made. British and United States gold coin are legal tender in Canada. Subsidiary silver coin is legal tender up to \$10; the 5-cent piece (now made of zinc and copper) is legal tender up to \$5; and the 1-cent bronze coin, up to 25 cents. Since 1931, the Government has permitted the export of gold only under licences issued by the Department of Finance, thus conserving the gold resources of the nation to meet the external obligations, and Canadian mines now dispose of their gold through the Royal Canadian Mint according to definite conditions of purchase.

Bank Notes.—Under the Bank Act the chartered banks may issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. This amount was reduced by 5 p.c. per annum for a period of five years from Jan. 1, 1936, and is to be reduced by 10 p.c. per annum for a period of five years from Jan. 1, 1941. In case of insolvency, bank notes are a first lien on assets and for over sixty years no note holder has lost a dollar.

In addition to notes of the chartered banks, there are also in circulation notes of the Bank of Canada. These notes may be issued to any amount as long as the Bank maintains a reserve in gold equal to at least 25 p.c. of its note and deposit liabilities (see p. 206).

Bank Notes Outstanding, Representative Years, 1900-44
(Yearly Averages)

Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding	Year	Dominion or Bank of Canada Notes Outstanding	Chartered Bank Notes Outstanding
	\$	\$		\$	\$
1900.....	26,550,465	46,574,780	1936.....	105,275,223 ¹	119,507,306
1910.....	89,628,569	82,120,303	1937.....	141,053,457 ¹	110,259,134
1920.....	305,806,288	288,800,379	1938.....	161,137,059 ¹	99,870,493
1929.....	204,381,492	178,291,030	1939.....	184,904,919 ¹	94,064,907
1931.....	153,079,362	141,969,350	1940.....	277,095,305 ¹	91,134,378
1932.....	165,878,510	132,165,942	1941.....	406,433,409 ¹	81,620,753
1933.....	179,217,446	130,362,488	1942.....	572,256,208 ¹	71,743,242
1934.....	190,261,981	135,537,793	1943.....	773,426,716 ¹	50,230,620
1935.....	127,335,340 ¹	125,644,102	1944.....	927,917,481 ²	37,683,660 ²

¹ Since Mar. 11, 1935, the figures used represent Bank of Canada notes.

² Ten-month figure.

Banking

Banking in Canada began to develop some of the features of a central bank system soon after Confederation. These in chronological order are:—

(1) *Central Note Issue*, permanently established with the issue of Dominion notes under legislation of 1868.

(2) *The Canadian Bankers' Association*, established in 1900 to effect greater co-operation in the issue of notes, in credit control, and in various other ways.

(3) *Central Gold Reserves*, established in 1913.

(4) *Re-discount Facilities*, made a permanent feature of the system in 1923, provided the banks with a means of increasing their legal tender cash reserves at will.

(5) *The Bank of Canada*, established as a central bank in 1935.

The Bank of Canada.—Legislation was enacted in 1934 to establish the Bank of Canada as a central or bankers' bank. All of its stock is now vested in the Dominion Government. The Bank regulates the statutory cash reserves of the chartered banks, which are required to maintain not less than 5 p.c. of their deposit liabilities payable in Canadian dollars in the form of deposits with, and notes of, the Bank of Canada. The Bank also acts as the fiscal agent of the Dominion of Canada and may, by agreement, act as banker or fiscal agent for any province. Bank of Canada notes, which are legal tender, are the main source of paper money in Canada and will become increasingly so since the chartered banks must gradually reduce their note issues to 25 p.c. of their paid-up capital.

The Bank of Canada is empowered to buy and sell securities in the open market; to discount securities and commercial bills; to fix minimum rates at which it will discount; to buy and sell bullion and foreign exchange. Under the Exchange Fund

Hudson's Bay Company Money.—The brass coins represented one "Made-Beaver"—the unit of currency used in the fur trade for many decades. It was equal to the skin of an adult male beaver in prime condition and was still in use in some districts as late as 1910. About 1820 the Hudson's Bay Company found that currency was badly needed by the Selkirk settlers and, as a result of negotiations with the Governor-in-Chief of Rupert's Land, promissory notes of one pound, five shillings and one shilling were put into circulation at Red River in 1823. These notes were the circulating medium of the Northwest until 1870 when the Company's land became part of the Dominion of Canada.



Order, 1940, the Bank transferred its reserve of gold to the Foreign Exchange Control Board in which Canada's exchange reserves have now been centralized. At the same time the Bank of Canada's statutory 25 p.c. minimum gold reserve requirement against its note and deposit liabilities was temporarily suspended.

The Canadian Banks and the Dominion's War Effort.—Because they operate for the most part on a nation-wide scale, the chartered banks of Canada from the first have been in a position to exercise an extraordinarily potent influence on Canada's war effort. The experience, resources and organization of these banks, with their thousands of branches throughout the country, have been placed unreservedly at the disposal of the Dominion Government, and have been of great assistance not only in carrying out much of the administrative work connected with the control of measures necessary for the maintenance of financial equilibrium but also for the services of experts to assist in operations connected with the financing of war operations.

To-day, the volume of business handled by the banks is on a level phenomenally higher than at any time in their history, yet their staffs of experienced men are much smaller than in peace-time, owing to the fact that nearly 7,000 of their younger men are serving in the Armed Forces. These men have had to be replaced by women, quickly and intensively trained for their work.

The most onerous war work devolving on the chartered banks has been the administration of the regulations of foreign exchange control. These regulations, which are numerous and complicated, entail much extra work by the staffs of the leading offices, involving as they do explanations to customers, advice as to procedure, the filling out of forms and full responsibility for all the innumerable international transactions involved.

Other war work includes handling details connected with the offering and sale of Victory Bonds; selling war savings certificates and war savings stamps; ration-coupon banking; establishment of branches at military camps; cashing of innumerable cheques for Government employees and members of the Armed Forces and their dependants; the cashing of coupons for the hundreds of thousands of holders of Victory Bonds; the administering of much detail of Canada's cheque stamp law; the collecting and clearing of millions of income tax certificates relative to coupons, cheques and other items cashed and received for deposit.

Commercial Banking.—The branch bank is perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks was the development of a partly centralized system. The number of chartered banks, which was 36 in 1881 and 34 in 1901, decreased to 25 in 1913 and is now only 10, but has been accompanied by a great increase in the number of branches. In 1868 there were only 123 branch banks in Canada. By 1902 the number, including sub-agencies, had grown to 747, by 1916 to 3,198 and by 1929 to 4,069, but by the beginning of 1944 the number had decreased to 3,084. Commencing in 1941, in the effort to conserve manpower, numerous branches of the chartered banks have been closed down temporarily, but this has been planned between the banks so that no area in Canada is left without adequate banking facilities. From 1867 to October, 1943, the total assets have grown from \$78,000,000 to \$5,267,000,000.

Statistics of Individual Chartered Banks as at Oct. 31, 1944

Bank	Branches in Canada and Abroad ¹	Total Assets	Liabili-	Liabili-	Total Liabili-	Loan & Dis- counts	De- posits by the Public
			ties to Share- holders	ties to the Public			
	No.	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000	\$ '000,000
Bank of Montreal.....	442	1,527	75	1,449	1,524	266	1,385
Bank of Nova Scotia.....	277	542	36	505	541	133	462
Bank of Toronto.....	158	281	18	262	280	55	256
Banque Provinciale du Canada.....	132	111	5	105	110	19	104
Canadian Bank of Commerce.....	478	1,179	50	1,127	1,177	263	1,078
Royal Bank.....	615	1,695	55	1,637	1,692	337	1,557
Dominion Bank.....	120	275	14	260	274	72	248
Banque Canadienne Nationale.....	200	291	12	217	289	54	272
Imperial Bank of Canada.....	165	327	15	311	326	75	300
Barclay's Bank (Canada).....	2	33	2	31	33	4	24
Totals, Oct., 1944.....	—	6,261	282	5,964	6,246	1,278	5,686
Totals, 1943².....	2,589	5,148	282	4,849	5,131	1,334	4,592
Totals, 1942².....	2,642	4,400	281	4,102	4,383	1,370	3,834
Totals, 1941².....	2,830	4,008	279	3,712	3,991	1,403	3,465
Totals, 1940².....	2,846	3,707	279	3,411	3,690	1,324	3,180
Totals, 1939².....	2,861	3,592	279	3,298	3,578	1,244	3,061
Totals, 1938².....	2,875	3,349	279	3,057	3,336	1,201	2,824
Totals, 1935².....	2,978	2,957	278	2,668	2,946	1,276	2,427
Totals, 1930².....	3,598	3,237	305	2,910	3,215	2,065	2,517
Totals, 1920².....	4,876	3,064	252	2,784	3,036	1,935	2,438
Totals, 1910².....	2,621³	1,211	179	1,019	1,198	870	910
Totals, 1900².....	641	460	98	356	454	279	305

¹ As at Dec. 31 of previous year. Does not include sub-agencies.

² Averages from the

respective monthly statements, except in the case of the numbers of branches in Canada and abroad

which are as at Dec. 31.

³ 1911.

The banks of Canada had among them, at the beginning of 1944, 135 branches (not including sub-agencies) in other countries, mainly in Newfoundland, the West Indies, Central and South America.

Bank Clearings and Bank Debits.—Inter-bank transactions recorded through the clearing houses form a valuable indication of the trend of business. However, they do not tell the whole story, since numerous transactions between persons who carry their accounts in the same bank are not recorded in bank clearings; also, every amalgamation of banks lessens the total volume of clearings. Again, head-office clearings have been effected through the Bank of Canada since Mar. 11, 1935, and this has tended to increase exchanges compared with previous years. For these reasons, a record of cheques debited to accounts at all branches at clearing-house centres is considered to possess greater reliability as a barometer of economic conditions. From 1929 there was a steady decline to the 1932 level of \$25,844,000,000, but in the next four years the movement was generally upward, reaching \$35,929,000,000 in 1936. In 1937 and 1938 there were recessions, a slight increase was shown for 1939, but for 1940 the increase for the year amounted to 9 p.c., and in 1941, 1942 and 1943 the annual increases over the preceding years amounted to 14 p.c., 16 p.c., and 18 p.c., respectively. Cheque transactions were \$44,011,000,000 in the first nine months of 1944, representing a gain of 14.7 p.c. over the same period of the preceding year. The economic expansion, due mainly to war production, was the chief cause of the acceleration in deposit turnover.



Inspecting Newly Minted Coins at the Royal Canadian Mint.—As the coins pass—4,000 in 90 seconds—on the belt, they are examined by trained experts for defects of every description.

Courtesy, National Film Board

Bank Debits at the Clearing-House Centres, by Economic Areas, 1939-43

Economic Area	1939	1940	1941	1942	1943
	\$	\$	\$	\$	\$
Maritime Provinces.....	679,947,972	824,489,836	940,712,152	1,075,736,890	1,243,762,861
Quebec.....	9,820,399,452	9,973,060,607	11,068,666,580	12,751,093,627	15,373,881,025
Ontario.....	13,618,490,448	15,384,403,480	18,214,788,841	22,136,164,250	24,681,702,142
Prairie Provinces.....	5,478,229,879	6,118,407,201	6,591,645,027	6,722,376,622	9,199,963,592
British Columbia.....	2,020,284,080	2,137,113,355	2,427,144,584	2,840,882,813	3,297,405,107
Totals.....	31,617,351,831	34,437,474,479	39,242,957,184	45,526,254,202	53,796,714,727

Insurance

Life Insurance.*—The life insurance business was introduced into Canada by companies from the British Isles and the United States of America about the middle of the nineteenth century. By 1875 there were at least 26 companies, and possibly several more, competing for the available business in Canada, as against 41 active companies registered by the Dominion and a few provincial companies in 1943. Of the 41 active companies registered by the Dominion, 28 were Canadian, 3 British, and 10 foreign.

As a result of the adaptation of life insurance policies to the needs of the public and of the growing wealth of the country, the increase in the amount of life insurance in force has been remarkable. In 1869 the total life insurance in force in Canada, by Dominion registered companies, was only \$35,680,000 as compared with approximately \$8,534,000,000 at the end of 1943. This latter figure was equal to \$741.66 per

*1943 figures are from the Insurance Abstract, 1943.

head of population. In addition, there was \$213,000,000 of fraternal insurance in force by Dominion licensees and \$226,000,000 of insurance in force by provincial licensees. Thus the total life insurance in force in the Dominion at the end of 1943 was approximately \$8,973,000,000. The premium income from Canadian business of all Dominion registered companies (not including fraternal benefit societies) increased from \$90,000,000 in 1920 to \$221,000,000 in 1930, and to \$229,000,000 in 1943.

Fire Insurance.*—The report of the Superintendent of Insurance for the year ended Dec. 31, 1943, shows that at that date there were 267 fire insurance companies doing business in Canada under Dominion licences, of which 59 were Canadian, 73 were British, and 135 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British, and 3 United States. The proportionate increase in the number of British and foreign companies from 59 to 78 p.c. of the total number is a very marked point of difference between fire and life insurance in Canada, the latter being carried on very largely by Canadian companies.

The enormous increase since 1869 (the earliest year for which statistics are available) in the fire insurance in force is due, no doubt, partly to the growth of the practice of insurance; but it is also important as an indication of the growth of the value of insurable property in the country, and thus throws light upon the expansion of the national wealth of Canada. By 1880, companies with Dominion licences had fire insurance totalling \$411,564,271; by 1900, the one-thousand-million-dollar mark had almost been reached, and by 1930, the total stood at \$9,672,997,000. At the end of 1943 besides \$13,372,229,828 of fire insurance in force in companies with Dominion licences, there was also \$1,494,965,108 in force in companies with provincial licences, or about \$14,867,194,936 in force in companies, associations, or underwriters licensed to transact business in Canada.

Miscellaneous Insurance.—Miscellaneous insurance now includes among other classes in Canada: accident (including personal accident, public liability and employers' liability); aircraft; automobile; boiler; credit; earthquake; explosion; falling aircraft; forgery guarantee; hail; inland transportation; live stock; personal property; plate glass; real property; sickness; sprinkler leakage; theft; title; weather and windstorm. Whereas, in 1880, 18 companies were licensed for such insurance, in 1943 there were 267 companies, of which 58 were Canadian, 73 British and 136 foreign.

The total net premium income of Dominion-registered companies for 1943 was \$52,202,266 and the most important class of miscellaneous insurance, according to the amount of premiums received, was automobile insurance, which has greatly increased during the past decade although decreases were shown for a few years prior to 1935 and for 1942 and 1943. As recently as 1910, the premium income of companies doing an automobile insurance business was only \$80,466; in 1916 it was \$909,503 and in 1943 \$18,895,360. The premium income of combined accident and sickness insurance came second with \$7,709,337. Personal property insurance was third in 1943 with \$4,458,004. The premium income of all accident and sickness insurance combined totalled \$18,968,480.

Canadian Government Annuities.—The Government Annuities Act authorizes the issue of Government annuities in order to encourage the people of Canada to provide, during the earning periods of their lives, for old age. A Canadian Government annuity is a yearly income of from \$10 to \$1,200, either payable for life, or

* 1943 figures are from the Insurance Abstract, 1943.

guaranteed for 10, 15 or 20 years and payable for life thereafter. Annuities may be either deferred or immediate, and may be purchased individually or by associated groups operating under retirement plans.

From the inception of the Act until Mar. 31, 1944, the total number of individual annuity contracts and certificates under group contracts issued was 109,704. The net receipts for the entire period totalled \$238,749,783.

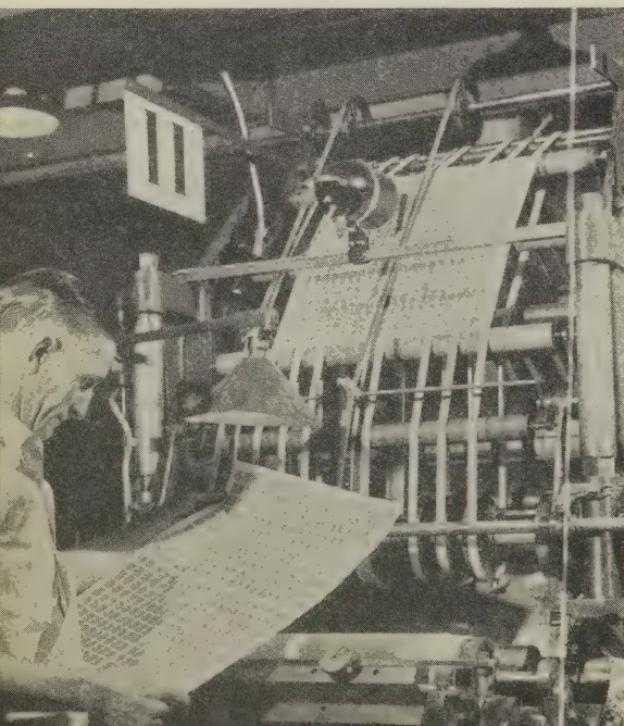
On Mar. 31, 1944, there were in effect 99,430 contracts and certificates. Annuity was payable under 28,199 of these and annuity was still deferred under 71,231. The total amount of annuity payable under the vested contracts was \$11,203,827 and the value of outstanding annuities, both immediate and deferred, was \$213,561,537, this being also the balance at credit of the Annuities Fund as of Mar. 31, 1944.

Loan and Trust Companies

The principal function of loan companies is the lending of funds on first mortgages on real estate, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies under provincial charters, the majority operate largely in the more prosperous farming communities.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. In 1943 there were 40 loan companies that reported, with a paid-up capital of \$34,283,316 (Dominion companies \$18,885,241 and provincial companies \$15,398,075).

The reserve funds of all real-estate-mortgage loan companies at the end of 1943 were \$22,080,663 (Dominion companies \$13,000,233 and provincial companies \$9,080,430); liabilities to the public \$125,939,274 (Dominion companies \$93,777,695 and provincial companies \$32,161,579); and liabilities to shareholders \$59,049,819 (Dominion companies \$33,174,651 and provincial companies \$25,875,168).



Printing Postage Stamps.—Intaglio printing on this rotary press produces about 1,000 sheets an hour.

Boxes containing five-cent coins being released from the vaults at the Royal Canadian Mint for distribution, simultaneously, to every province of the Dominion.



Courtesy, National Film Board

Trust companies act as executors, trustees, and administrators under wills or, by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minors or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy.

The aggregate total assets of the trust companies of Canada at the end of 1943 were \$3,032,715,830 as compared with \$805,000,000 in 1922 (the earliest year for which figures are available). The bulk of these assets (\$2,803,189,885 in 1943) was represented by estates, trusts and agency funds. The assets of Dominion companies in 1943 amounted to \$375,114,488 and of provincial companies to \$2,657,601,342.

Small Loans Companies and Money-Lenders

Small loans companies make loans of \$500 or less on the promissory notes of borrowers, additionally secured, in most cases, by endorsements or chattel mortgages. Such companies, at the end of 1943, had an aggregate paid-up capital of \$3,740,000; reserve funds, \$583,110; borrowed money, \$3,548,100; other liabilities, \$2,749,437; small loans made, \$19,328,551; small loans balances, \$9,768,505.

The Small Loans Act, 1939 (c. 23, 3 George VI), passed by the Parliament of Canada, came into force on Jan. 1, 1940. Under this Act, licensed money-lenders making personal loans of \$500 or less are limited to a rate of cost of loan of 2 p.c. per month on outstanding balances and unlicensed lenders to a rate of 12 p.c. per annum, including interest and charges of every description. As at Dec. 31, 1943, there were 62 licences issued under the Small Loans Act, 1939, of which 3 were issued to small loans companies and 59 to money-lenders. The 59 money-lenders made personal loans in 1943 of \$10,342,680 and at the end of that year had outstanding small loans balances of \$5,221,810.

CHAPTER XVII

Education

The British North America Act assigns education, with few reservations, to the control of the provinces. But the close relation of education to national welfare has from time to time brought some forms of it under the care, stimulation and bounty of the Central Government. According to the Constitution, the Federal Government controls "Indians and lands reserved for Indians". It operates 349 exclusively Indian schools and ten mixed schools with an enrolment of 18,000 pupils. It also operates 8 penitentiaries with 3,300 inmates whose education is expected to receive more attention in the near future. Under national defence it supports the Royal Military College at Kingston, Ont., and the Royal Canadian Naval College at Royal Roads near Victoria, B.C. It has long supported a Canadian Officers Training Corps and recently a University Air Training Corps and University Naval Training Division in the universities and, on request, bears the cost of cadet training.

Summary Statistics of Education in Canada, 1942

NOTE.—Figures in even hundreds are approximate only.

Type of School or Course	Institutions	Pupils	Teachers	Expenditure
	No.	No.	No.	\$
Provincially Controlled Schools—				
Ordinary and technical day schools.....	32,200	2,029,762	75,332	
Evening schools.....	450	83,757	2,450	
Correspondence courses.....	8	25,333	340	
Special schools.....	20	5,244	500	
Normal schools.....	92	7,200	958	
Privately Controlled Schools—				
Ordinary day schools.....	845	95,836	6,162	
Business training schools.....	188	27,226	650	
Dominion Indian Schools—	363	17,281	575	1,878,726
Universities and Colleges—				
Preparatory courses.....	60 ¹	20,483	1,413	
Courses of university standard.....	153	48,067		
Other courses at university.....	10 ¹	37,308	5,424	
Totals.....	34,400	2,397,497	93,500	165,700,000

¹ Includes only affiliated schools that are not enumerated in "Courses of university standard".

Recent Trends in the Field of Education

Elementary and High-School Curricula.—Changes in the organization and selection of curricula are being effected despite war-time limitations. These are observed in a change of emphasis in the elementary grades where growth in knowledge is replacing the more formal grade standards in the accumulation of knowledge. Accompanying this, the emphasis is being shifted to organizing the content of several subjects into enterprises with the hope that the pupil will become a partner and accept the challenge to help organize and carry through the enterprise.

In the high-school years, emphasis is being placed on such subjects as physics and mathematics which can contribute to preparing additional war personnel. Technical education has expanded greatly. Youth Training classes, night classes and regular classes keep the technical schools busy early and late.



Young Students in a Rural School Taking a Singing Lesson.—They are illustrating a percussion band by motions, thus developing the rhythm necessary in music.

Courtesy, National Film Board

The composite school which is gaining in popularity in the Prairie Provinces is intended to provide a broad and varied high-school program. A plan which has been suggested by the Manitoba Educational Association Committee contains the following optional courses: college preparatory, commerce, agriculture, industry and home economics, all of which choices contain such subjects as English, health and social studies. These are subjects which, along with citizenship, are receiving more emphasis in the elementary grades.

Vocational guidance is receiving considerable attention in several provinces as seen in the appointment of Guidance Directors and the establishment of classes in guidance and job information.

Enrolment.—Pupil population continued to decrease in 1943-44. The downward trend in the number of beginners has probably touched bottom and may be expected to rise. Loss of high-school students is more problematical. Boys and girls stop school to join the Armed Forces or because of increasingly attractive offers from business. Average daily attendance has been lowered by secondary and even elementary school pupils staying home to work on the farm, in the orchard, etc. Contributions of teachers and pupils to the war effort during vacations have been considerable, including farming and activities in war charities, war savings and salvage campaigns.

Nearly all private schools are filled to capacity. High war-time incomes, crowded public schools, absence of parents from homes and lack of domestic help are among contributing factors.

Nursery schools in Quebec, Ontario and Alberta provide help for mothers who work in the daytime. Plans call for three types of care to be provided upon request: the day nursery, which is usually open from 7.30 a.m. to 6 p.m.; the school project caring for school-age children during non-school hours from about 7.30 a.m. to 6 p.m. and on Saturdays and holidays; foster day-care programs, using the facilities of the local Children's Aid Society, provide day care for physically or mentally handicapped children. A small charge is made for these services.

Normal School Training.—The Normal schools across the Dominion have been undergoing transformations from within during the war years. In keeping with the modern philosophy they teach, the following trends are observable although not all of them could be found in all Normal schools: fewer hours devoted to lectures and more time given to practice teaching in regular classes; stressing the use of diagnostic tests before teaching subject matter; emphasis on action and activity or enterprise procedure with the work organized as problems challenging youth; division of the Normal-school year into two or three divisions to meet the demand for teachers; increased library facilities available to teachers in the field to keep experienced teachers abreast of the times and enable new teachers to learn more about the profession; appointment of successful experienced teachers as supervisors to aid permit teachers in their work (Manitoba); provision for Normal instructors to spend part of their time supervising new teachers in the field and integrating the work of the Normal school with work in the classroom (Saskatchewan).

In Alberta the Normal is now affiliated to the Faculty of Education of the University of Alberta with provision for students beginning education in Normal school and continuing in summer schools to complete a four-year course towards a Bachelor of Education degree.

University Training.—The impact of war has resulted in a variety of changes in university curricula. New courses have been added, old ones modified or accelerated. Able men with Junior Matriculation have been given intensive courses in mathematics, physics and chemistry, thus saving a year in engineering without altering the schedule of the regular classes. An attempt to speed up medical courses by eliminating the summer vacation did not work well and has been generally cancelled as efficiency was being sacrificed to speed. In fact there seems to be a general feeling that acceleration by means of summer-school work is definitely harmful in the professional faculties.

Almost every university has instituted new science courses for the benefit of the Armed Forces while other courses have been modified to increase their war contribution. Almost every campus is dotted with student sailors, soldiers and airmen preparing for technical work in the Services. Programs of research on war problems have been, and are being conducted in numerous departments and contribute in no small measure to solving war-time problems.

Special courses have been given in personnel management, architecture, first aid, etc., and extension work is expanding.

The universities are now considering ways and means of providing accommodation and instructors for demobilized personnel. The Department of Pensions and National Health has estimated that from 30,000 to 35,000 men and 5,000 women from

First-Year High School Students Taking a Course in Nutrition in a Domestic Science Laboratory.

Courtesy, National Film Board



the Armed Forces will seek admission to the universities. Indications are that faculties in Commerce and Business Administration will be taxed to capacity and Engineering, Arts, Education, Medicine, Agriculture, Dentistry, Law, Pharmacy, followed by Journalism, Theology, Veterinary Science, Social Service and Library Science will have increased enrolment.

Vocational and Technical Training.—The Vocational Training Co-ordination Act of 1942 provided grants to co-operating provinces to fit civilians for war service in the Armed Forces or industry, and train discharged men and women for employment. Students in medicine and science may receive loans or scholarships to help them complete their courses. Loans are also available for Normal school students.

In 1937 appropriations were made to co-operating provinces to increase the employability of young people; 50 p.c. was contributed by the Federal Government. Free courses were made available in mining, agriculture, household science and technical subjects. In 1939 the Youth Training Act on the same basis provided, for needy young people, training for gainful employment. At the expiration of this Act its benefits were continued under the Vocational Training Co-ordination Act.

Physical Training.—British Columbia has a well-integrated, comprehensive recreational and physical educational program planned to cover the various seasons for the community members and including: individual and group games, swimming and life saving, physical fitness classes, home nursing, first aid, etc. Summer-school classes provided a curriculum for men, women and civilian protection leaders such as the A.R.P., auxiliary police and fire units. The Federal Government contemplates such a program for all of Canada. The National Physical Fitness Act, 1943, provided for a "National Council on Physical Fitness", a "National Director of Physical Fitness" and "National Fitness Fund".

School Administration.—Annual conventions of educational organizations are improving co-ordination and providing leadership in Canadian education. The Canadian Trustees Association met at Toronto on Aug. 1-2, 1944, and favoured such progressive movements as community schools. They pointed to the need for a Dominion-wide association of school administrators with a central office, preferably at Ottawa. Similarly the Teachers' Federation at their convention considered that their services



Classroom in a School Car in Northern Ontario.—These travelling schools, the only ones of their kind in the world, provide thoroughly modern education for children in scattered communities in northern Ontario. The cars travel in circuits, spending usually a week with each group in turn and sufficient home work is given to keep the children busy until the return of the car.

Courtesy, Canadian National Railways

to education could be expanded by enlarging their central office and locating it at Ottawa. The Canada and Newfoundland Education Association is becoming increasingly recognized as a progressive educational institution.

The problem of financing the schools increases in importance from year to year. Among other considerations is the desirability of financing groups of schools as one. The movement towards forming larger units by combining single districts is gaining momentum. In Alberta the movement began in 1931 and by 1940, 50 large divisions were formed from all but 79 of the rural schools. British Columbia is, in the main, noted for consolidations, notably the Peace River organization and the Abbotsford experiment. Saskatchewan has permissive legislation. Manitoba has one municipal unit and a number of consolidated schools. In Ontario several townships or part townships have been organized as single units. The County Schools Finance Act 1943 and Rural Schools Assistance Act bids fair to combine most of the 1,348 single districts into county units and revolutionize rural education in New Brunswick. Three counties adopted the larger unit within three months and others followed or will soon follow. In Nova Scotia by 1943 a majority of the municipalities had been organized as units and more are expected to effect this change. In Prince Edward Island some consolidation is hoped for in high schools. There the chief advantage is expected to result from additional high-school facilities and a broadening of the curriculum for those of non-academic bent.

The shortage of qualified teachers is increasing. The employment of several hundred teachers who have not been teaching for many years and hundreds of high-school graduates with only a few months of professional training cannot but reduce the

level of teaching. This is particularly true where returning ex-teachers find themselves facing new curricula based on activity techniques or where the permit teachers had been schooled under formalized training. As the majority of these are stationed in the rural districts the chief deterioration must be expected in the outlying districts where good teaching is badly needed.

Shortage of teachers is reflected in the general increase in salaries. For eight provinces of Canada, Quebec excluded, the average salary increase paralleled the increase in the cost of living fairly closely from 1939 to 1943.

Public Libraries

The Canadian Library Council, incorporated in 1943, has obtained financial backing from the Carnegie Corporation to promote library service and librarianship on a national basis. Significant social changes, induced or hastened by five years of war, have necessitated a co-ordination of professional library service to meet the requirements of expanding programs of adult education and community study groups. The volume of reading has decreased during the war years but such discussion groups as citizens' forums, farm forums and study groups associated with international affairs have made the library a source of reference material and the librarian a counsellor on "book talk" rather than a curator of books. The Library Council has recently distributed to the libraries specialized bibliographies on subjects of such national interest as reconstruction, demobilization and unemployment.

To meet the needs of rural or isolated communities, provincial educational authorities and extension departments of universities are increasing their travelling libraries and mail service. The policy of central regional book pools, where small association libraries may obtain books on a collective contribution basis, is proving successful in many districts. These function under different names such as Union Libraries and County or Township Associations and their number is growing in several provinces.



A Travelling Library during Children's Hour.—This street car, stocked with a wide variety of literature, serves outlying residential districts of a western city.



The Parliament Buildings, Ottawa, looking west on Wellington Street towards the Confederation Building.

Courtesy, National Film Board

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